

SALMON-TAGGING EXPERIMENTS IN ALASKA, 1926

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INTRODUCTION

Continuing the series of salmon-tagging experiments that have been conducted in Alaska since 1922, approximately 13,000 salmon were tagged during the summer of 1926 in the channels of southeastern Alaska. The methods employed have been adequately described in previous publications.¹ During 1926 a special effort was made to supplement the experiments of 1924 and 1925 in southeastern Alaska; and, in general, the tagging that was done early in the season in 1926 was carried out in localities where it had been done late in the other years, and vice versa.

In the report on the experiments of 1924 and 1925 a list of localities from which returns had been obtained was given. The 1926 returns came from many of these localities and from a few not contained in the list. It does not seem necessary to repeat the list in this report, as it is readily available to anyone interested; but we present the following supplemental list of localities that do not appear in the previous list, but from which returns were reported in 1926. Any of the places mentioned in this report can be identified from the two lists.

MINOR LOCALITIES FROM WHICH TAGGED FISH WERE RECORDED

- Alder Grove. Three miles north of Lime Point, Hetta Inlet.
- Annette Point. Southern point of Annette Island, Clarence Strait.
- Arboleda Point. Northwestern point of Suemez Island, Bucareli Bay.
- Auke Bay. Mainland shore, northeastern end of Stephens Passage.
- Baker Island. Bucareli Bay.
- Bay Point. Prince of Wales Island, 1 mile southeast of Point Colpoys. Western point of entrance to Farragut Bay.
- Bradfield Canal. Indenting the mainland north of Cleveland Peninsula.
- Browson Island. Ernest Sound, southeast of Etolin Island.
- Burke Channel. Queen Charlotte Sound, British Columbia.

¹ Experiments in Tagging Adult Red Salmon, Alaska Peninsula Fisheries Reservation, Summer of 1922. By Charles H. Gilbert. Bulletin, U. S. Bureau of Fisheries, Vol. XXXIX, 1923-1924 (1923), pp. 39-50, 1 fig. Washington. Second Experiment in Tagging Salmon in the Alaska Peninsula Fisheries Reservation, Summer of 1923. By Charles H. Gilbert and Willis H. Rich. *Ibid.*, Vol. XLII, 1926 (1925), pp. 27-75, 12 figs. Salmon-Tagging Experiments in Alaska, 1924 and 1925. By Willis H. Rich. *Ibid.* (1926), pp. 109-146, 1 fig.

- Caamaño Point. Behm Canal, southernmost point of Cleveland Peninsula.
 Cape Fox Island. Cape Fox, Dixon Entrance.
 Carroll Island, Frederick Sound. Southern end of Admiralty Island.
 Carroll Point. Entrance to Carroll Inlet, southern shore of Revillagigedo Island.
 Caution Point. Southern point of entrance to Whitewater Bay, Chatham Strait.
 Cedar Point. (Three listed, exact locality shown in tables.)
 Chichagof Pass. Between Etolin and Woronkofski Islands.
 Chickamin River. Entering Behm Canal near latitude $55^{\circ} 51'$.
 China Hat Island. Just west of Stevens Island near the mouth of the Skeena River, British Columbia.
 Clover Bay. Eastern shore of Prince of Wales Island, just north of Cholmondelay Sound.
 Club Rocks. Three miles south of Cape Northumberland, Dixon Entrance.
 Coffman Island. At southern entrance to Kashevarof Passage, northeastern shore of Prince of Wales Island.
 Concks Creek. Near Wrangell.
 Daisy Island. In Kasaan Bay, western shore of Clarence Strait.
 Dall Bay. Two miles northeast of Dall Head, Gravina Island.
 Danger Point. (Two listed.) 1. Mitkof Island, Wrangell Strait. 2. Southern point of entrance to Kootznahoo Inlet, Admiralty Island.
 Datzkoo Harbor. Dall Island.
 Deepwater Point. Northern point of entrance to Woewoodski Harbor, Frederick Sound.
 Division Point. East-northeast of Mud Bay.
 Dog Island. Northern shore of Duke Island.
 Dry Bay. Eastern shore of Stephens Passage, latitude $57^{\circ} 37'$.
 Dry Strait. Between Mitkof Island and the mainland.
 Edye Passage. North of Porcher Island, British Columbia.
 Eliza Harbor. Admiralty Island, Frederick Sound.
 Emerald Bay. Ernest Sound.
 False Bay. Eastern shore of Chichagof Island, Chatham Strait.
 False Island. Northern shore Peril Strait, opposite Rodman Bay.
 Favorite Bay. Head of southernmost arm of Kootznahoo Inlet, Admiralty Island, Chatham Strait.
 Fish Creek. Douglas Island, north of Fritz Cove.
 Fishery Point. Western shore of Admiralty Island, Chatham Strait.
 Five Mile Creek. Five miles north of Petersburg, on Kupreanof Island.
 Francis Anchorage. In Farragut Bay, Frederick Sound.
 Freshwater Bay. Eastern shore of Chichagof Island, Chatham Strait.
 Fritz Cove. Western end of Douglas Island.
 Frosty Bay. Seward Passage.
 Garnet Point. Southern point of Kanagunat Island.
 George Islands. Entrance to Port Althorp, Cross Sound.
 Glass Peninsula. Between Seymour Canal and Stephens Passage, Admiralty Island.
 Grace Harbor. Dall Island.
 Grant Cove. Northern end of Gravina Island.
 Grindall Island. At entrance to Kasaan Bay.
 Helm Bay. On Cleveland Peninsula, Behm Canal.
 Herring Bay. Frederick Sound, southern shore of Admiralty Island.
 Hotspur Island. Between Annette and Duke Islands.
 Howkan Narrows. Between Dall and Long Islands.
 Hugh Point. Southernmost point of Glass Peninsula.
 Humpback Bay. Porcher Island, British Columbia.
 Hunter Bay. Prince of Wales Island, opening into Cordova Bay.

- Indian Point. Northern point of entrance to Naha Bay, Behm Canal.
- Ingraham Bay and Point. Southeastern shore, Prince of Wales Island, latitude 55° .
- Inian Cove. Northwest coast of Inian Island.
- Inian Pass (South). Icy Strait, between Inian Island and Chichagof Island.
- Kadake Bay. First bay north of Port Camden, Keku Strait.
- Kake. Village in northeastern part of Kupreanof Island.
- Kasaan Point. The north point of entrance to Skowl Arm of Kasaan Bay.
- Kelp Bay. Northeastern shore of Baranof Island, Chatham Strait.
- Kelp Point. (Two listed.) 1. Dundas Island, British Columbia. 2. Etolin Island, Clarence Strait.
- Kennedy Island. Just south of Skeena River, British Columbia.
- Kitwanga. Town on the Skeena River, British Columbia.
- Lemesurier Island. Icy Strait, at entrance to Glacier Bay.
- Lime Point. Prince of Wales Island, east of Sukkwan Island. (Incorrectly printed in previous list as Line Point.)
- Lisianski Inlet. Northwestern part of Chichagof Island, opening into Lisianski Strait and thence into Cross Sound.
- Long Island. Kaigani Strait.
- Lyman Anchorage. Western shore of Clarence Strait, Kasaan Peninsula, Prince of Wales Island.
- MacNamara Point. Zarembo Island, northeast point of entrance to Clarence Strait.
- Mary Island. North of Duke Island, Revillagigedo Channel.
- Masset Inlet. Graham Island, British Columbia.
- Meyers Chuck. Clarence Strait, Cleveland Peninsula east of Lemesurier Point.
- Middle Point. Douglas Island.
- Morris Reef. Chatham Strait at eastern entrance to Peril Strait.
- Mosman Inlet. Etolin Island, Clarence Strait.
- Mud Bay. Northern shore of Chichagof Island, Icy Strait.
- Murder Cove. Southern end of Admiralty Island.
- Napean Point. Eliza Harbor, Frederick Sound.
- Nelson Cove. West shore Gravina Island, Clarence Strait.
- Nesbitt Point. Southernmost point of Zarembo Island.
- North Pass. North of Lemesurier Island, Icy Strait.
- Nunez Point. Southeast point of Bean Island, near Cape Chacon, Dixon Entrance.
- Observatory Inlet. Upper continuation of Portland Inlet, British Columbia, above the mouth of the Nass River.
- Outer Point. Western point of Douglas Island, Stephens Passage.
- Parker Point. Western shore Admiralty Island, Chatham Strait.
- Peninsula Point. Tongass Narrows, Revillagigedo Island. (Another in Chatham Strait.)
- Percy Islands. Near Sealed Passage, Clarence Strait.
- Pinta Cove. South shore of Icy Strait, eastern side of Point Adolphus.
- Polk Island. North of Ingraham Bay, southeastern shore of Prince of Wales Island.
- Port Essington. Skeena River, British Columbia.
- Prince Rupert. Near the mouth of Skeena River, British Columbia.
- Raymond Cove. Southeastern shore of Cleveland Peninsula, Behm Canal.
- Rocky Bay. Etolin Island, opening into Clarence Strait.
- Rocky Bay. Thatcher Point, southern point of eastern entrance to Peril Strait.
- Rocky Point. On the mainland, south of Excursion Inlet, halfway between Excursion Inlet and Rocky Island.

- Saginaw Bay. Northwestern shore of Kuiu Island, Frederick Sound.
 San Christoval Channel. Bucareli Bay.
 San Juan Bautista Island. In Bucareli Bay, west coast of Prince of Wales Island.
 Santa Anna. Bay Point and cannery, mainland shore of Ernest Sound, latitude 56°.
 Seward Passage. Ernest Sound between Deer Island and the mainland.
 Shelter Cove. Northern end of Stephens Passage.
 Shelsey River. In British Columbia, tributary to Taku River.
 Shipwreck Point. On northeastern shore of Cordova Bay.
 Shoal Point. North end of Douglas Island.
 Skin Island. Near entrance of Cholmondeley Sound, Clarence Strait.
 Smith Island. Off the mouth of the Skeena River, British Columbia.
 Snettisham Inlet (or Port). Indenting mainland coast of Stephens Passage.
 Sommerville Channel. Portland Inlet, British Columbia.
 Sophia Point. Eastern point of entrance to Port Frederick, Icy Strait.
 Spaskaia Bay. Northern shore of Chichagof Island, Icy Strait.
 Spencer, Cape. Northwestern point of entrance to Cross Sound.
 Stag Bay. Lisianski Strait, indenting the west shore of Chichagof Island.
 Strait, Cape. Northeastern shore of Lindenberg Peninsula, Kupreanof Island.
 Taku Point. On the eastern shore of Taku Inlet.
 Tenakee. Village on eastern shore of Tenakee Inlet, Chichagof Island.
 Tugwell Island. Northwest of Digby Island, Chatham Sound, British Columbia.
 Twelve-mile Arm. Kasaan Bay, Prince of Wales Island.
 Twelve-mile Creek. Twelve miles north of Petersburg, on Kupreanof Island.
 Ulitka, Cape. Noyes Island.
 Unuk River. Burroughs Bay, mainland north of Revillagigedo Island.
 Vallenar Point. Northern end of Gravina Island.
 Village Point. (Three listed.) 1. Annette Island. 2. Chilkat Inlet. 3. Chaik Bay, Admiralty Island, Chatham Strait.
 Wilson Cove. Southeastern shore, Admiralty Island.
 Young Bay. Northern shore Admiralty Island, Stephens Passage.
 Young Cove. Howkan Strait, Dall Island, Cordova Bay.
 Zayas Island. Dixon Entrance, just west of Dundas Island, British Columbia.

The record of the tags attached in 1926 is given in Table 1.

TABLE 1.—Tags attached in southeastern Alaska, 1926

Experiment No.	Serial Nos.	Number of fish tagged	Species	Locality	Date
1	1-200	62 50 19 69	Red Coho Pink Chum	South of Foggy Point	June 24
2	201-498	159 58 2 77	Red Coho Pink Chum	Garnet Point, Kanagunut Island	June 25
3	499-950	233 56 48 113	Red Coho Pink Chum	Midway between Tree and Foggy Points	June 30
4	951-1500	307 74 68 99	Red Coho Pink Chum	Garnet Point	July 1

TABLE 1.—Tags attached in southeastern Alaska, 1926—Continued

Experiment No.	Serial Nos.	Number of fish tagged	Species	Locality	Date
5	1501-1800	37 52 169 42	Red Coho Pink Chum	Nelson Cove, west shore of Gravina Island	July 6
6	1801-2160	31 64 119 145	Red Coho Pink Chum	2½ miles north of Nelson Cove	July 7
7	2161-3200	705 61 259 11	Red Coho Pink Chum	Point Colpoys, Sumner Strait	July 10
8	3201-4200	5 1 978 16	Red Coho Pink Chum	4 miles northeast of Cape Bendel, Frederick Sound	July 15
9	4201-5200	4 2 944 49	Red Coho Pink Chum	do	July 16
10	5201-6000	4 4 774 16	Red Coho Pink Chum	do	July 17
11	6001-6500	1 481 18	Red Pink Chum	do	July 18
12	6501-6800	17 1 274 8	Red Coho Pink Chum	5 miles northeast of Parker Point, Chatham Strait	July 20
13	6801-7100	22 1 271 6	Red Coho Pink Chum	do	July 21
14	7101-7500	8 1 382 8	Red Coho Pink Chum	do	July 22
15	7501-7800	7 3 290	Red Coho Pink	Inian Cove, Inian Island	July 24
16	7801-8300	17 3 476 3	Red Coho Pink Chum	do	July 25
17	8301-8600	55 9 233 3	Red Coho Pink Chum	Northwest side of Inian Island	July 26
18	8601-8900	6 2 289 3	Red Coho Pink Chum	do	July 27
19	8901-9200	17 17 281 5	Red Coho Pink Chum	do	July 28
20	9201-9500	25 13 255 7	Red Coho Pink Chum	do	July 29
21	9501-9800	189 25 73 12	Red Coho Pink Chum	West shore of Douglas Island	July 31

TABLE 1.—Tags attached in southeastern Alaska, 1926—Continued

Experiment No.	Serial Nos.	Number of fish tagged	Species	Locality	Date
22	9801-10200	94	Red	West shore of Douglas Island	Aug. 1
		25	Coho		
		211	Pink		
		70	Chum		
23	10201-10600	103	Red	Southwest shore of Douglas Island	Aug. 2
		23	Coho		
		262	Pink		
		12	Chum		
24	10601-11000	130	Red	do	Aug. 3
		17	Coho		
		248	Pink		
		5	Chum		
25	11001-11500	4	Red	Stone Rock Bay, Clarence Strait	Aug. 9
		12	Coho		
		479	Pink		
		5	Chum		
26	11501-12500	45	Red	West side of Long Island, Kaigani Strait	Aug. 10
		20	Coho		
		919	Pink		
		14	Chum		
27	12501-13100	10	Red	do	Aug. 11
		26	Coho		
		500	Pink		
		4	Chum		

RETURNS FROM EXPERIMENTS NEAR CAPE FOX

Four experiments were conducted at this point, on June 24, 25, and 30 and on July 1. Nearly 1,500 fish were tagged, including reds, cohos, pinks, and chums. Because of the fact that the experiments were so close together in time and place, it has not been thought necessary to give separate returns for each experiment, but the returns from the several species will be considered separately.

RED SALMON

Of the 751 red salmon tagged, 308 were recaptured and reported. The returns are given in Table 2 and are shown graphically in Figure 1.

TABLE 2.—Returns from red salmon tagged in the Cape Fox region, June 24 to July 1—761 tagged, 308 returned (40.8 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Chatham Strait:			Revillagigedo Channel—Continued.		
Between Hood Bay and Point Caution	1	36	Kah Shakes	16	1-60
Clarence Strait:			Kirk Point	2	4-8
Sealed Pass	1	11	De Long Island	3	6-7
Percy Islands	1	24	Foggy Point and Bay	14	2-14
Bostwick Inlet	1	15	Tree Point	31	2-21
Vallener Bay and Point	1	49	Dixon Entrance:		
Streets Island	1	10	Cape Fox	3	22-42
Nelson Cove	1	15	Boat Rock	5	2-9
Clover Bay	1	24	Kanagunut Island	13	1-28
Driest Point	1	17	Garnet Point	6	11-18
Moirs Sound	1	94	British Columbia:		
Ship Island	1	18	Portland Inlet	1	5
Behm Canal:			Somerville Bay and Channel	4	0-28
Smagton Bay	5	8-46	Kutzeymateen Inlet	1	44
Roe Point	6	3-11	Nass River	35	2-69
Sykes Point ¹	13	2-9	Observatory Inlet	5	5-13
Revillagigedo Channel:			Wark Canal	1	44
Carroll Inlet	2	21	Holland Rock	2	5-13
Crab Bay	8	7-8	Tugwell Island	1	1
Point Alava	1	36	Skeena River	2	10-45
Slate Island ¹	22	1-27	Kennedy Island	1	(?)
Boca de Quadra	49	1-45	Edye Passage	1	41
Boca de Quadra hatchery	44	45-77			

¹ One recorded as taken before the date of tagging. Such cases are not considered in calculating the time elapsed between tagging and recapture.

By far the greater number of these fish went north and were taken in Revillagigedo Channel, Boca de Quadra, and Behm Canal. It is especially interesting to note the very large numbers taken in Boca de Quadra and at the Boca de Quadra hatchery. It is evident that this is one of the most important producing areas for the red-salmon runs that strike in at Cape Fox early in the season; and from the fact that so many of the tags were taken at the hatchery it seems possible that the hatchery operations are responsible for this unusual productiveness. In support of this we have the fact that the runs to the hatchery have been increasing for a number of

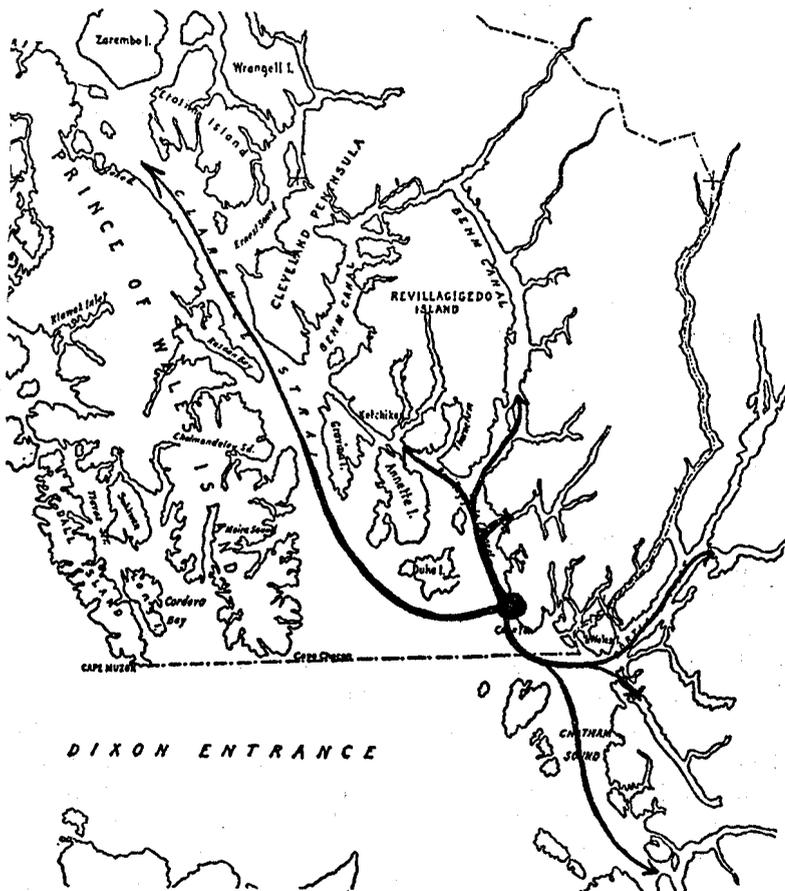


FIG. 1.—Distribution of red salmon tagged in Cape Fox region, June 24 to July 1, 1926. In this and the other similar figures the width of the lines indicating the routes of salmon migration show roughly the relative importance of each route

years. A smaller, though still important, component of the early run at Cape Fox is composed of red salmon derived from the Nass River. Forty-six tags were reported from the Nass and from the waters immediately adjacent and 35 of these were taken in the river itself. Eight others were taken elsewhere in British Columbia, including two taken in the Skeena River.

In the experiments of 1924 and 1925 the tagging in the Cape Fox region was done later in the season (July 30 to August 9), and but few red salmon were included, the total number being only 91. The recaptures numbered but 20, 10 of which came

from the region between Kanagunut Island and the mouth of Boca de Quadra. Other recaptures were made in both the Skeena and the Nass Rivers; and on the basis of these few data it was tentatively concluded that the Nass and Skeena Rivers are important sources of the red salmon found in the region about Cape Fox, at least during the latter part of the season. The experiments of 1926 support the theory that the Nass River, at least, is the source of an important part of the runs that pass Cape Fox, but show clearly (which the previous experiments did not) that a much more important element of the run has its origin in the streams to the north, and particularly in Boca de Quadra.

In a recent report² Williamson gives the results of the tagging of red salmon taken from traps at Haystack Island, British Columbia, just south of the international boundary, and only about 8 miles from Cape Fox. Between August 3 and 21, 1925, 659 sockeyes were tagged here. Of these 135 were recovered, 80 of which (60 per cent) were taken in the Nass River and 10 in Portland Canal and Observatory Inlet, waters immediately adjacent to the mouth of the Nass River. Thirteen were taken in the Skeena River, 5 in miscellaneous localities in British Columbia, and 27 in Alaskan waters. The Alaskan returns were mainly from the region of Cape Fox, Revillagigedo Channel, Clarence Strait, and Ernest Sound, the greatest number of returns from a single locality coming from Union Bay, Ernest Sound. A few were also retaken along the west coast of Prince of Wales Island.

Considering these experiments as a whole, both in Alaskan and in British Columbian waters, they indicate an interesting and significant segregation of the fish. Eighteen per cent of the recaptured fish tagged north of the international boundary had crossed over into Canadian waters, and 20 per cent of the returns from fish tagged south of the boundary were taken in Alaskan waters. The essential equality of these percentages is remarkable.

The experiments in Alaska have been carried on both early and late in the season and probably present a fairly accurate picture of the distribution of red salmon from the region of Cape Fox. The experiments in British Columbia are not quite so conclusive, however, inasmuch as they cover only the latter part of the season, and it would be extremely interesting and instructive if other experiments at Haystack Island could be made earlier in the year. In the light of our present knowledge, however, it appears that the red salmon that strike in through Dixon Entrance make with considerable directness for the streams of their origin. Those bound for Alaskan streams seldom swing south into the waters of British Columbia, and those bound for Canadian streams as rarely swing north and pass through Alaskan waters. This is, perhaps, the first recorded instance of fish respecting international boundaries!

COHOS

In the Cape Fox region 238 cohos were tagged between June 24 and July 1 and 41 were recaptured. The data are given in Table 3 and Figure 2.

² Pacific Salmon Migration: Report of the Tagging Operations in 1925. By H. Charles Williamson. Contributions to Canadian Biology and Fisheries, new series, Vol. III, No. 9, 1927.

TABLE 3.—Returns from cohos tagged in the Cape Fox region, June 24 to July 1—238 tagged, 41 returned (17.2 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Clarence Strait:			Revillagigedo Channel—Continued.		
Cape Chacon.....	1	40	Kah Shakes.....	2	19-32
Bostwick Inlet.....	1	9	Tree Point.....	1	21
Streets Island.....	1	18	Dixon Entrance:		
Driest Point.....	2	17-31	Kanagunut Island.....	2	14-35
Dall Head.....	1	44	Garnet Point.....	1	23
Ship Island.....	2	35-40	British Columbia:		
Behm Canal:			Wales Island ¹	2	40-47
Roe Point.....	1	9	Nass River.....	1	4
Sykes Point.....	1	6	Wark Canal ¹	5	26-45
Revillagigedo Channel:			Zayas Island.....	1	14
North end Annette Island.....	2	65-78	Dundas Island.....	8	1-35
Slate Island.....	1	86	Skeena River.....	1	26
Mary Island.....	1	18	Smith Island.....	1	6
Club Rocks.....	1	9	Burke Channel.....	1	(?)

¹ One reported taken before the date of tagging.

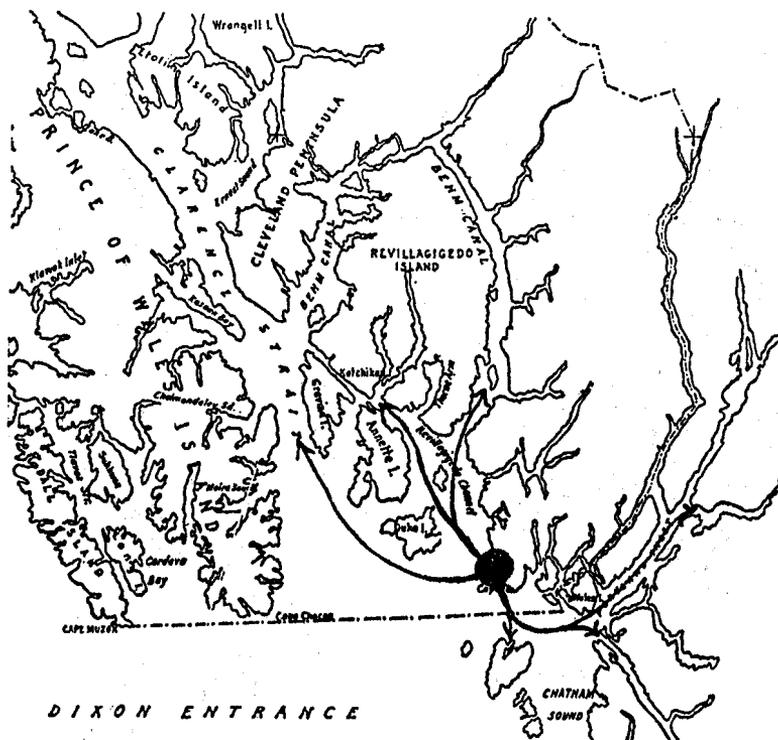


FIG. 2.—Distribution of cohos tagged in Cape Fox region, June 24 to July 1, 1926

The main migration routes are north into Revillagigedo Channel and Clarence Strait and south into various localities in British Columbia. Approximately one-half the total number returned were taken in British Columbia. In the experiments conducted late in July, 1925, only 79 cohos were tagged and 14 were returned, all from Alaskan waters. Although this can not be taken as conclusive evidence, it indicates that while approximately one-half of the earlier runs of cohos at Cape Fox originate in Canadian streams the later runs are, in large measure, if not exclusively, derived from streams in Alaska.

PINK SALMON

Twenty-six of 137 pink salmon tagged near Cape Fox in 1926 were recaptured. The data are given in Table 4 and graphically in Figure 3.

TABLE 4.—Returns from pink salmon tagged in the Cape Fox region, June 24 to July 1—137 tagged 26 returned (19 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Clarence Strait:			Revillagigedo Channel—Continued.		
Percy Islands.....	2	30	Slate Island.....	1	11
Driest Point.....	1	13	Boca de Quadra ¹	4	13-19
Behm Canal:			Kirk Point.....	1	16
Roe Point.....	1	11	Foggy Point and Bay.....	2	7-9
Sykes Point.....	1	35	Tree Point.....	2	7-9
Revillagigedo Channel:			Dixon Entrance: Cape Fox.....	1	40
Point Higgins.....	1	39	British Columbia:		
Crab Bay.....	2	13-21	Steamer Passage.....	1	35
Lucky Cove.....	1	11	Nass River.....	1	55
Point Alava.....	3	13-35	China Hat Island.....	1	11

¹ One recorded as taken before the date of tagging.

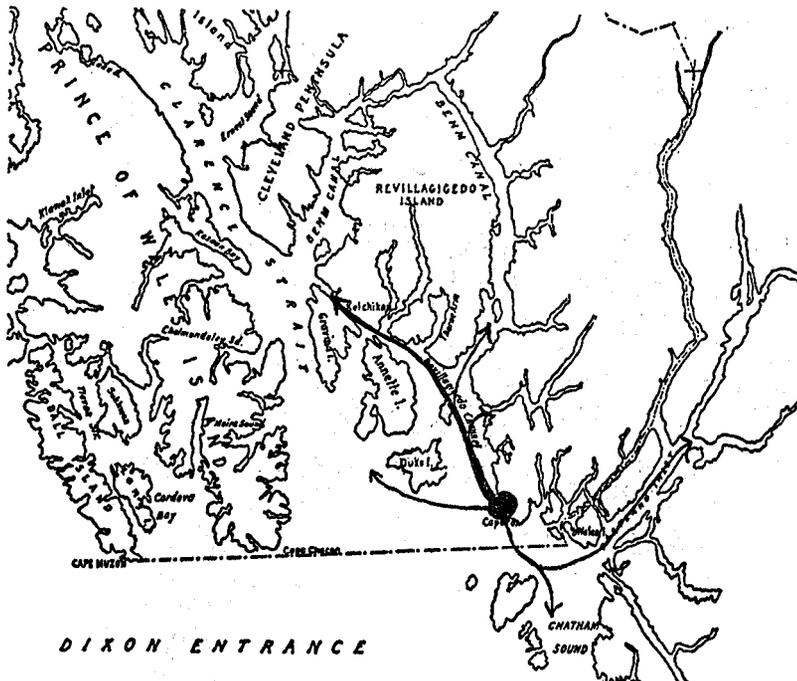


FIG. 3.—Distribution of pink salmon tagged in Cape Fox region, June 24 to July 1, 1926

These fish were taken chiefly in Revillagigedo Channel and contiguous waters, not far from the point of tagging. Only three (11.5 per cent) went south into British Columbia. The previous experiments of 1924 and 1925 came later in the season, when the run of pinks was at its height. As a result many more were tagged and retaken, but the general distribution was approximately the same. The percentages taken in the various localities vary considerably from year to year, but this is probably due (in part, at least) to the small number of fish tagged in 1926. No tagged pinks were taken in British Columbia in 1924, but 10.8 per cent of the recoveries of 1925 were taken there—approximately the same as in 1926.

CHUMS

At Cape Fox 358 chums were tagged, and 82 of these were retaken later. The data are given in Table 5 and Figure 4.

TABLE 5.—Returns from chum salmon tagged in the Cape Fox region, June 24 to July 1—358 tagged, 82 returned (22.9 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Ernest Sound: Santa Anna.....	1	22	Revillagigedo Channel—Continued.		
Clarence Strait:			Boca de Quadra hatchery.....	2	40-61
Dall Bay.....	2	10-38	Kah Shakes.....	4	5-26
Vallenar Bay.....	1	49	Kirk Point.....	1	6
Streets Island.....	1	17	De Long Island.....	4	2-7
Nelson Cove.....	1	15	Foggy Point and Bay.....	9	3-44
Ship Island.....	1	12	Trea Point.....	9	1-12
Behm Canal:			Dixon Entrance:		
Black Island.....	1	18	Cape Fox.....	1	22
Roe Point.....	5	9-39	Sitklan Island.....	1	28
Point Caamaño.....	1	18	Fillmore Inlet.....	1	16
Sykes Point.....	5	5-52	Boat Rock.....	1	5
Revillagigedo Channel:			Kanagunut Island.....	2	7-14
Carroll Inlet.....	1	20	Garnet Point.....	5	11-28
Point Higgins.....	1	38	B		
Lucky Cove.....	1	19	tish Columbia.....		
Slate Island.....	2	14-20	Sommerville Bay and Channel.....	1	20
Boca de Quadra.....	15	9-20	Prince Rupert Cannery.....	1	27
			Doubtful.....	1

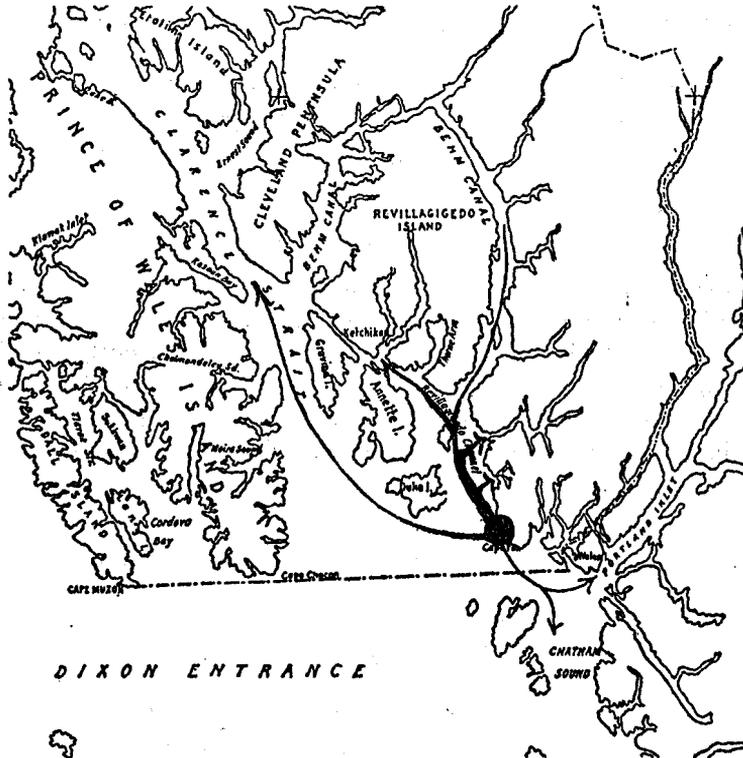


FIG. 4.—Distribution of chum salmon tagged in Cape Fox region, June 24 to July 1, 1926

By far the greater proportion of these fish were taken (as in the case of the pinks) in Revillagigedo Channel, Behm Canal, and Clarence Strait. Only three were taken in British Columbia. These results are, to all intents and purposes, identical with those obtained in 1924 and 1925.

RETURNS FROM EXPERIMENTS NEAR NELSON COVE, CLARENCE STRAIT

Tagging was done here on two days—July 6 and 7; 659 fish were tagged, of which 68 were reds, 116 cohos, 288 pinks, and 187 chums. There were no experiments in previous years that can be compared directly with these, but supplementary experiments are planned for future years.

RED SALMON

Sixty-eight were tagged but only 11 were recaptured and reported. The data for these are given in Table 6 and show a general distribution toward Ernest Sound and Revillagigedo Channel. One was taken near Cape Fox and another in British Columbia. The data are too few to be thoroughly reliable; but, so far as they go, they do not indicate that either the Boca de Quadra fish or the fish from the streams of British Columbia are found in any great numbers along the western coast of Gravina Island in the region of Nelson Cove.

TABLE 6.—Returns from red salmon tagged near Nelson Cove, Clarence Strait, July 6 and 7, 1926—68 tagged, 11 returned (16.1 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Ernest Sound: Union Bay and Point.....	2	6-10	Revillagigedo Channel:		
Clarence Strait:			Slate Island.....	1	3
Meyers Island.....	1	11	Boca de Quadra hatchery.....	1	57
Nelson Cove.....	1	3	Dixon Entrance: Kanagunut Island.....	1	9
Driest Point.....	1	3	British Columbia: Humpback Bay, Porcher		
Dall Head.....	1	11	Island.....	1	3
Clover Bay.....	1	23			

COHOS

The data for the cohos tagged near Nelson Cove are given in Table 7 and Figure 5. These show, as in the case of the red salmon, a distribution through Clarence Strait, Behm Canal, and Revillagigedo Channel, but indicate a distinctly heavier migration to the streams of northern British Columbia. Of 24 recaptured fish, 7 (30 per cent) were taken in Canadian waters, including both the Nass and the Skeena Rivers. This result is in accord with those from the experiments conducted in the region of Cape Fox and indicates a distinctly wider range of the cohos than of the other species tagged.

TABLE 7.—Coho salmon tagged near Nelson Cove, Clarence Strait, July 6 and 7, 1926—116 tagged, 24 returned (20.6 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Chattham Strait: Point Gardner.....	1	59	Behm Canal—Continued.		
Clarence Strait:			Smeaton Bay.....	1	11
Cape Chacon.....	1	9	Revillagigedo Channel:		
Marsh Island.....	1	27	Point Alava.....	1	21
Skin Island.....	1	19	Kah Shakes Point.....	1	7
North end Gravina Island.....	1	7	Foggy Point and Bay.....	2	25-32
Duke Island.....	2	13-14	British Columbia:		
Dall Head.....	1	12	Nass River.....	1	(?)
Behm Canal:			Wark Canal.....	3	8-26
No details.....	1	30	Zayas Island.....	1	35
Bond Bay.....	2	7-10	Skeena River.....	2	22-51
Indian Point.....	1	25			

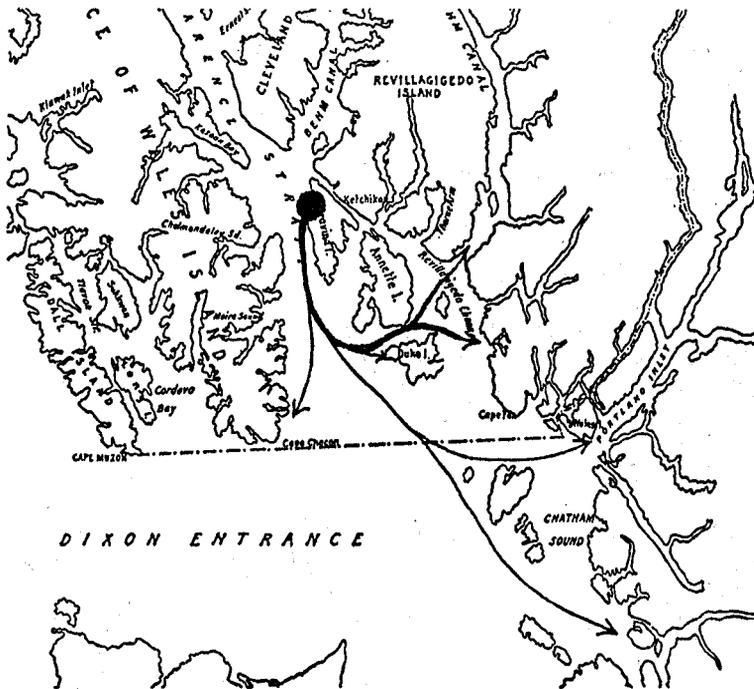


FIG. 5.—Distribution of cohos tagged near Nelson Cove, July 6 and 7, 1926

PINK SALMON

The data secured from the tagging of pink salmon in the region of Nelson Cove are given in Table 8 and Figure 6. With this species there has been no passing over into Canadian waters, and by far the greater part of the recovered fish were taken not far from the point where they were tagged—in Clarence Strait, Behm Canal, Revillagigedo Channel, and Ernest Sound. Two were reported taken near Cape Fox and two from localities in Stephens Passage.

TABLE 8.—Pink salmon tagged near Nelson Cove, Clarence Strait, July 6 and 7—288 tagged, 68 returned (23.6 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Stephens Passage:			Behm Canal—Continued.		
Port Houghton.....	1	22	Betton Island.....	9	2-4
Windham Bay.....	1	21	Helm Bay.....	1	3
Clarence Strait:			Bond Bay.....	2	7-8
Molra Sound.....	1	10	Raymond Cove.....	1	3
Narrow Point.....	1	45	Caamafo Point.....	3	9-11
Percy Island.....	1	19	Ernest Sound:		
Driest Point.....	2	2-11	Point Eaton.....	2	4-10
Nelson Cove ¹	4	3	Point Warde.....	1	11
North end Gravina Island.....	2	3-4	Santa Anna.....	1	11
Smugglers Cove.....	1	3	Revillagigedo Channel:		
Meyers Island.....	4	3-7	Kah Shakes.....	1	19
Streets Island.....	4	5-14	Point Alava.....	2	35-37
Steamer Rock.....	1	18	Tree Point.....	2	5-9
Ship Island.....	1	3	Dog Island.....	1	40
Behm Canal:			Dixon Entrance: Cape Fox.....	2	29
Indian Point.....	11	2-5	Doubtful ²	4	5-13
Roe Point.....	1	4			

¹ One reported taken before the date of tagging.

² From False Island, an unidentified locality.

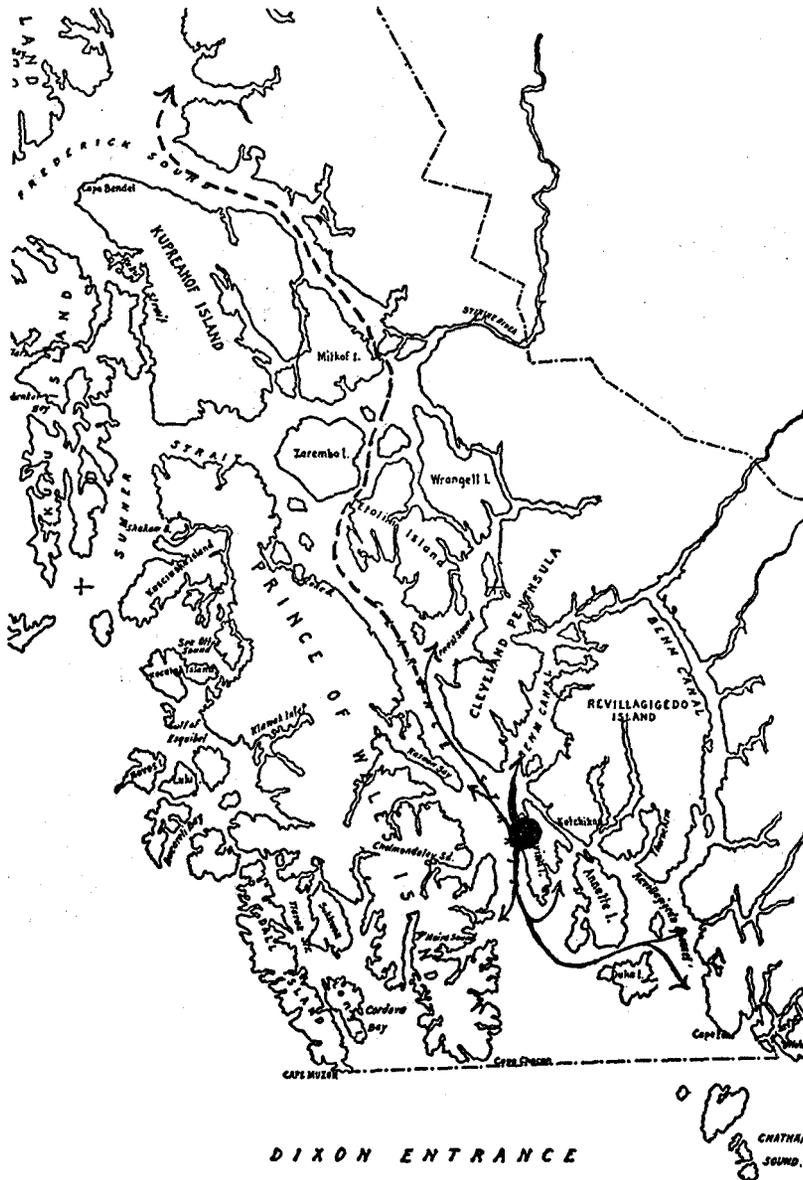


FIG. 6.—Distribution of pink salmon tagged near Nelson Cove, July 6 and 7, 1926

CHUMS

One hundred and eighty-seven were tagged and 40 were recovered. As usual, the general distribution of the chums was much the same as that of the pinks—in great part to near-by localities. This local distribution of both pinks and chums

was a conspicuous feature of the results of the tagging done in 1924 and 1925. One chum salmon tagged at Nelson Cove was taken in the Nass River, British Columbia. The data are presented in Table 9 and Figure 7.

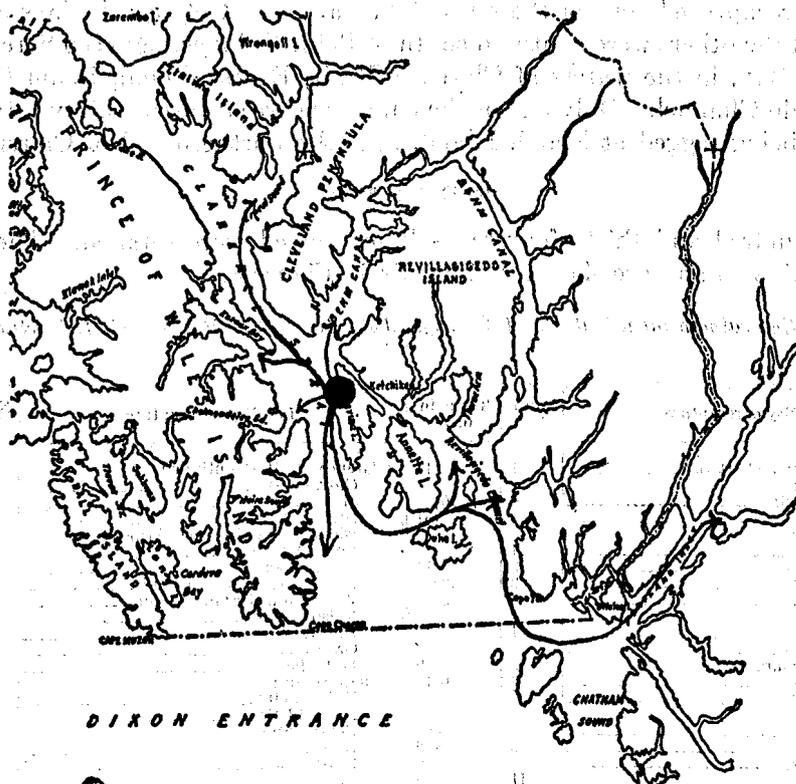


FIG. 7.—Distribution of chum salmon tagged near Nelson Cove, July 6 and 7, 1926

TABLE 9.—Chum salmon tagged near Nelson Cove, Clarence Strait, July 6 and 7, 1926—187 tagged, 40 returned (21.4 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Ernest Sound:			Clarence Strait—Continued.		
Union Point.....	1	30	Ship Island.....	2	35-36
Vixen Inlet.....	1	27	Mosman Inlet.....	1	16
Santa Anna.....	1	22	Revillagigedo Channel:		
Seward Passage.....	1	23	Mountain Point.....	1	19
Point Eaton.....	1	36	Southwest shore of Revillagigedo Island.....	1	3
Point Warde.....	1	21	Point Sykes.....	2	11-26
Clarence Strait:			Boca de Quadra.....	1	6
Cape Chacon.....	1	38	Kah Shakes Point.....	1	40
McLeans Arm.....	1	30	Tree Point.....	1	29
Streets Island.....	1	20	Boat Rock.....	1	2
Skin Island.....	1	23	Behm Canal:		
Island Point—Prince of Wales Island.....	4	7-15	Bond Bay.....	1	4
Postwick Inlet.....	1	22	Indian Point.....	1	8
Nelson Cove.....	1	2	Traitors Cove.....	1	23
Driest Point.....	1	15	Dixon Entrance: Kanagunut Island.....	1	4
North end Gravina Island.....	2	8-37	British Columbia: Nass River.....	1	6
Twelve Mile Arm.....	1	34	Doubtful.....	2	8-22
Meyers Chuck.....	2	23-37			

RETURNS FROM EXPERIMENTS AT POINT COLPOYS, SUMNER STRAIT

Tagging was done at Point Colpoys on only one day—July 10—when 705 red salmon, 61 cohos, 259 pinks, and 11 chums were tagged. Only eight of the tagged cohos were recaptured; one of these was taken at Point Colpoys six days after being tagged, and the others were captured south of Point Colpoys, between Screen Islands and Foggy Bay, in the waters of Clarence Strait, Ernest Sound, Behm Canal, and Revillagigedo Channel. Only one of the chums was recaptured; this was taken eight days after being tagged at Marsh Island, near the northern end of Clarence Strait.

RED SALMON

One hundred and thirty-four red salmon tagged were retaken. The data are given in Table 10 and are shown graphically in Figure 8.

TABLE 10.—Red salmon tagged at Point Colpoys, July 10, 1926—705 tagged, 134 returned (19 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Stephens Passage: Hobart Bay.....	1	12	Clarence Strait—Continued.		
Frederick Sound:			Clover Bay.....	2	8-11
Deepwater Point.....	4	10-12	Skin Island.....	1	15
Carroll Island.....	1	31	Hallbut Creek.....	1	9
Wrangell district:			Island Point (Prince of Wales Island).....	1	7
Dry Strait.....	1	14	Point Adams.....	1	12
Stikine Flats ¹	2	16	Point Caamaño.....	2	6-7
Concks Creek.....	2	12-19	North end Gravina Island.....	1	21
Chichagof Pass.....	8	3-14	West shore Gravina Island.....	1	37
Sumner Strait:			Nelson Cove.....	1	9
Red Bay.....	1	11	Dall Head.....	1	6
Point Colpoys.....	4	6	Crab Bay.....	1	5
Point McNamara.....	2	9	Duke Island.....	2	24
Snow Passage.....	2	6-19	Ernest Sound:		
Point Nesbitt.....	4	4-6	Union Point.....	1	2
Clarence Strait:			Emerald Bay.....	1	16
Marsh Island.....	3	8-9	Point Eaton.....	2	4-15
Screen Islands.....	5	4-9	Brownson Island.....	1	4
Lincoln Rock.....	4	6	Frosty Bay.....	1	16
Eagle Creek.....	11	4-6	Anan.....	1	12
Coffman Island.....	7	5-11	Behm Canal:		
Point Stanhope.....	2	8	Betton Island.....	1	6
McHenry Inlet.....	3	12	Fortman hatchery.....	1	85
Kelp Point.....	2	4-11	Revillagigedo Channel:		
Meyers Island.....	1	4	Mountain Point.....	1	11
Meyers Chuck.....	1	13	Carroll Point.....	2	9-39
Point Niblack.....	1	18	Point Alava.....	1	18
Streets Island.....	8	0-10	Kah Shakes.....	1	14
Narrow Point.....	5	8-42	Foggy Bay.....	2	5-16
Lyman Anchorage.....	1	22	British Columbia: Observatory Inlet.....	2	10-13
Kasaan Point.....	1	21	Doubtful.....	6	6-13
Grendall Island.....	8	5-10			

¹ One reported taken before date of tagging.

A slight migration northward into the Stikine district and Stephens Passage is indicated, but the main line of distribution is southward through Clarence Strait, Ernest Sound, Behm Canal, and Revillagigedo Channel. Only two were recorded as taken in British Columbia. In 1924 and 1925 a number of experiments were conducted at Ruins Point; also in Sumner Strait, though west and south of Point Colpoys about 40 miles. In 1924 the tagging at Ruins Point was scattered over a number of days between July 12 and August 17, and in 1925 it was done between July 18 and 25. There is very little difference in the distribution of the red salmon tagged at Ruins Point in 1924 and 1925 and at Point Colpoys in 1926, except such as would naturally follow as a result of the migration in through Sumner Strait. A few

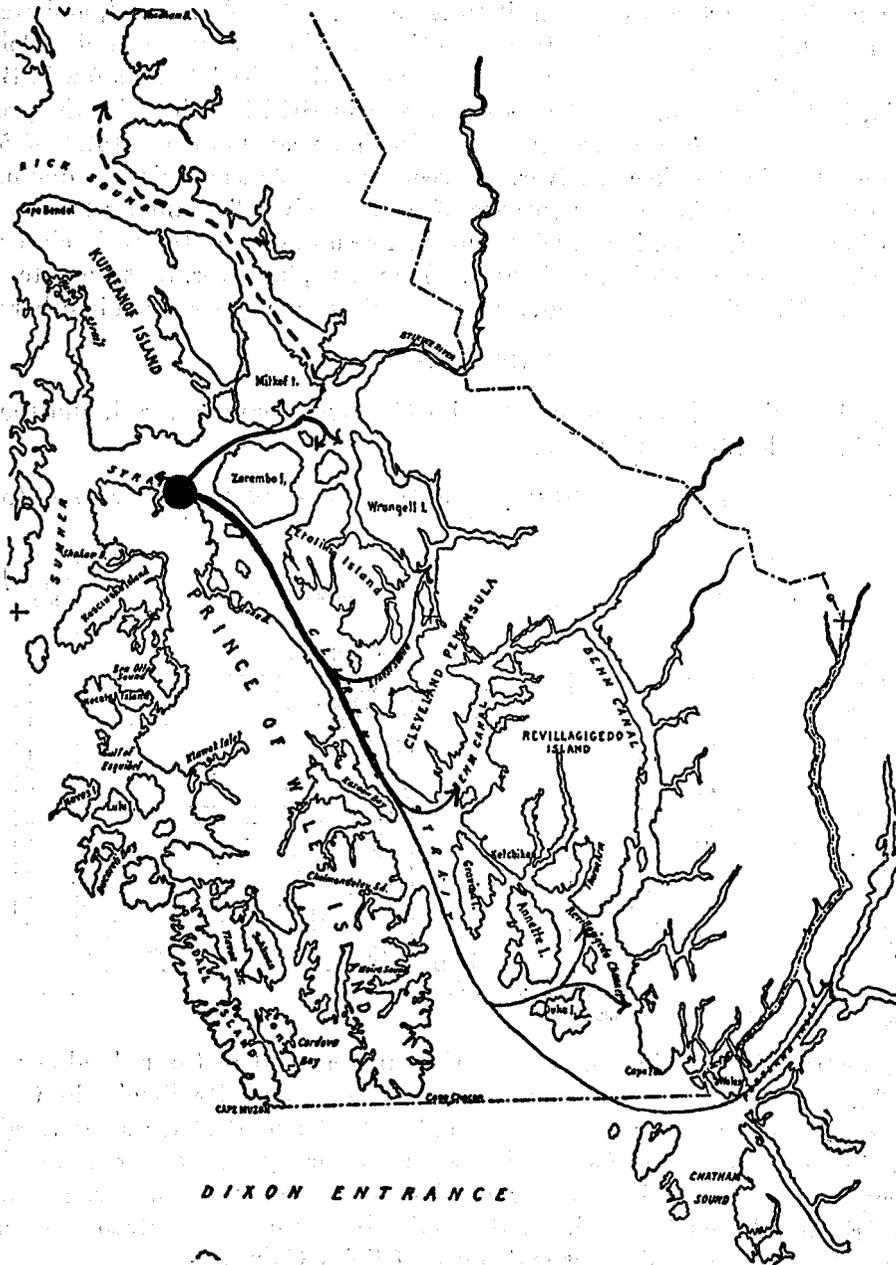


FIG. 8.—Distribution of red salmon tagged at Point Colpoys, July 10, 1926

of the fish tagged at Ruins Point went out of Sumner Strait again and were taken in the lower part of Chatham Strait and along the western coast of Prince of Wales Island; but the main route of migration was north and east through Sumner Strait and then south through Clarence Strait to Ernest Sound, Behm Canal, and Revillagigedo Channel, just as occurred in 1926 with the red salmon tagged at Point Colpoys. In the previous years a few reds were taken in the Stikine district and a few in British Columbia, just as in 1926. Of the returns taken in British Columbia, the greatest number was the result of the 1924 tagging. In that year 9 out of a total of 56 returns were taken in the Skeena River. It seems probable that this was due merely to chance fluctuations in the percentages of Skeena River fish among those tagged in the various experiments, inasmuch as no such results were obtained in either 1925 or 1926, when many more fish were tagged. It may be, however, that a greater number of Skeena River fish pass through Sumner Strait in some years than in others.

PINK SALMON

Sixty-eight pink salmon, tagged at Point Colpoys, were recovered, and the data are given in Table 11 and Figure 9.

TABLE 11.—Pink salmon tagged at Point Colpoys, July 10, 1926—259 tagged, 68 returned (26.2 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Frederick Sound:			Clarence Strait—Continued.		
Herring Bay.....	1	13	Halbut Creek.....	1	8
Deepwater Point.....	1	12	Botwick Inlet.....	1	14
Wrangell District:			Driest Point.....	1	7
Stikine River.....	2	3	Crab Bay.....	1	8
Chichagof Pass.....	1	14	Ernest Sound:		
Sumner Strait: Point Nesbitt.....	1	9	Union Point.....	1	12
Clarence Strait:			Point Eaton.....	8	4-5
Coffman Island.....	1	5	Brownson Island.....	6	4-13
Steamer Bay.....	1	12	Santa Anna.....	3	5-19
Screen Islands.....	1	4	Point Warde.....	3	4-7
Lincoln Rock.....	1	9	Point Watkins.....	2	0
Steamer Rock.....	2	5-14	Anan.....	4	8-15
Eagle Creek.....	1	5	Bradfield Canal.....	1	12
Onslow Island.....	1	34	Behm Canal:		
Kelp Point.....	1	1	Betton Island ¹	2	4
Meyers Island.....	4	4	Grant Island.....	1	14
Streets Island.....	1	8	Indian Point.....	1	5
Northwest Cove.....	5	6-10	Revillagigedo Channel: Boat Rock.....	1	16
Grindall Island.....	1	10	Doubtful.....	5	1-13

¹ One recorded as taken before date of tagging.

The distribution of pinks was much the same as that of the red salmon—that is, to Clarence Strait, Ernest Sound, Behm Canal, and Revillagigedo Channel. These results were the same as those secured in 1924 and 1925 from the tagging at Ruins Point, except for the fact, which would naturally be expected, that in the earlier experiments a considerable proportion of the returns came from the west coast of Prince of Wales Island, in Chatham Strait, north of the entrance to Sumner Strait, and in Sumner Strait west and south of Point Colpoys.

RETURNS FROM EXPERIMENTS AT CAPE BENDEL, FREDERICK SOUND

At this point, 3,297 salmon were tagged between July 15 and 18. Fourteen were red salmon, 7 were cohos, 3,177 pinks, and 99 were chums. None of the cohos was recovered and only four of the red salmon. Two of these came from Snettisham

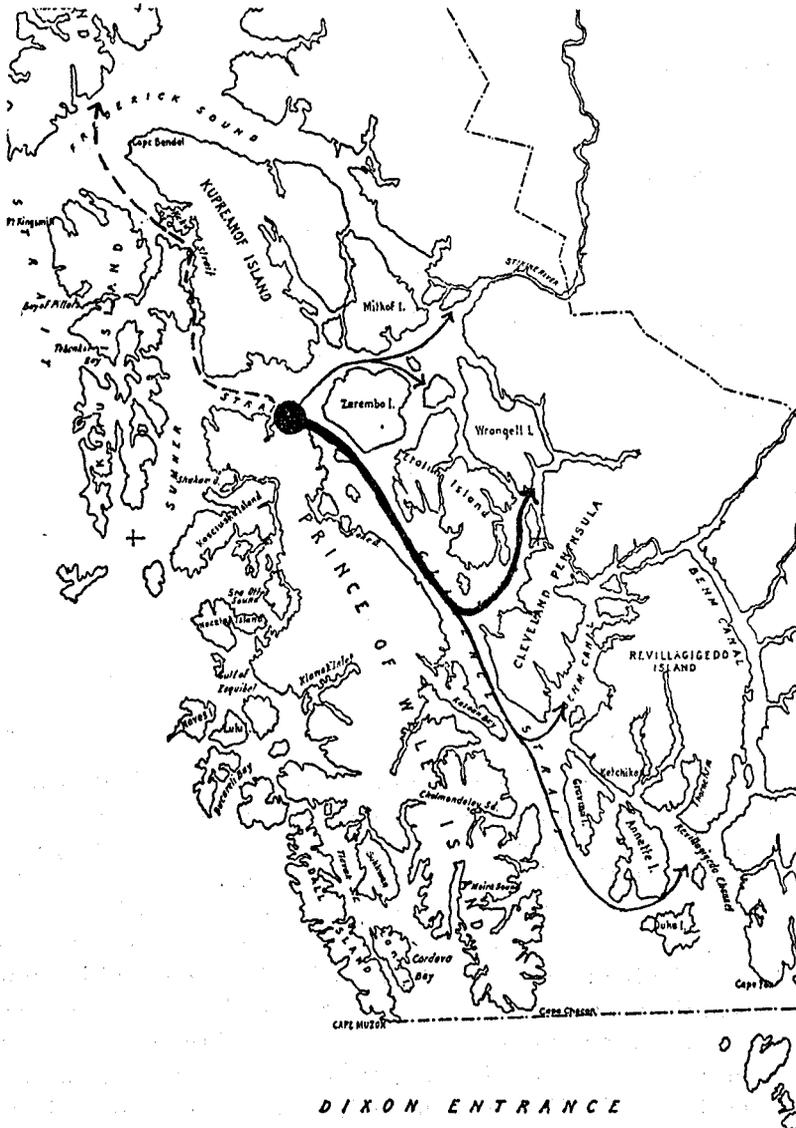


FIG. 9.—Distribution of pink salmon tagged at Point Colpoys, July 10, 1926

Inlet, Stephens Passage; one from Deepwater Point, Frederick Sound; and one from Cape Bendel. So far as these few returns go, they indicate a migration similar to that of the reds tagged in previous years at Kingsmill Point, in Chatham Strait, just below the entrance to Frederick Sound.

PINK SALMON

Of the pink salmon tagged, 1,093 were recovered and the data are presented in Table 12 and Figure 10.

TABLE 12.—Pink salmon tagged at Cape Bendel, July 15 to 18, 1926—3,177 tagged, 1,093 returned (34.5 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Icy Strait:			Frederick Sound and Keku Strait—Con.		
No details.....	8	12-21	Pybus Bay, Point, and Reef.....	116	0-26
Point Adolphus.....	1	4	Wilson Cove.....	5	7-21
Chatham Strait, north of Frederick Sound:			Deepwater Point.....	79	2-18
Hawk Inlet.....	3	9-17	Cape Fanshaw.....	116	1-25
Point Marsden.....	1	14	Bay Point.....	5	1-23
South Passage Point.....	1	7	Highland Point.....	26	6-24
Marble Bluffs.....	3	11-19	Farragut Bay.....	7	2-7
Basket Bay.....	9	6-21	Cape Strait.....	42	4-25
Rocky Bay, Point Thatcher.....	3	12-22	Twelve Mile Creek.....	3	13-32
Kelp Bay.....	2	14-16	Five Mile Creek.....	1	22
Hood Bay.....	4	21-27	Dry Strait.....	2	5-7
Between Hood Bay and Point Caution.....	13	5-15	No details ¹	9	-----
Chatham Strait, south of Frederick Sound:			Stephens Passage:		
Security Bay.....	3	4-9	Port Houghton ²	70	3-24
Washington Bay.....	3	6-11	Hobart Point.....	27	2-26
Tebenkof Bay.....	4	5-31	Hobart Bay.....	15	0-10
South of Kingsmill Point.....	2	4-7	Gambier Bay.....	11	7-24
Frederick Sound and Keku Strait:			Sunset Island.....	18	6-24
Kingsmill Point.....	1	7	Windham Bay.....	141	2-22
Hourigan Point.....	1	9	Dry Bay.....	15	4-37
Saginaw Bay.....	14	5-19	Hugh Point.....	1	7
Keku Island.....	7	1-4	Seymour Canal ⁴	65	0-26
Keku Strait.....	1	26	Snettisham Inlet.....	1	7
Kadake Bay.....	2	8-9	Limestone Inlet.....	21	4-19
Point Camden.....	1	8	Taku Inlet.....	3	14-19
Hamilton Bay.....	1	13	Salmon Creek, Juneau.....	2	37-39
Kake.....	2	13-14	Shoal Point.....	1	12
Point McCartney ¹	21	0-13	Stikine River ⁴	6	-----
Cape Bendel.....	104	1-26	Sumner Strait, McNamara Point.....	2	4
Herring Bay.....	45	2-23	Behm Canal, Chickamin River.....	1	20
Elizur Harbor.....	7	1-17	Clarence Strait, Cape Chacon.....	2	24-29
Napean Point.....	5	3-9	Doubtful.....	1	16
Carroll Island.....	8	3-16			

¹ One reported taken before the date of tagging.
² All reported taken between July 15 and Aug. 1.

³ Three reported taken before date of tagging.
⁴ Four reported taken before date of tagging.

About 5 per cent of the fish went to the westward from Cape Bendel and were taken in Chatham Strait, both north and south of Frederick Sound, and a few went as far north as Icy Strait. The great majority of the fish, however, were taken in the region of Frederick Sound and Stephens Passage. On August 4, 1924, nearly 600 pink salmon were tagged near Cape Bendel. The distribution of these fish was virtually the same as of the fish tagged in 1926, although a somewhat larger proportion was taken in Chatham Strait, south of Frederick Sound, and in Sumner Strait. The differences in the percentages do not appear to be significant, and the main lines of migration are undoubtedly the same. In the case of the pinks tagged at Kingsmill Point in 1924 and 1925, the general distribution is again the same as with those tagged at Cape Bendel in 1926, except that, as would be expected, considerable numbers were taken in Chatham Strait near Kingsmill Point and in Frederick Sound west of Cape Bendel. A larger percentage of the fish tagged at Point Kingsmill, also, was taken in Sumner Strait.

CHUMS

Twenty-one chums were recaptured and reported; all but one (which was taken in Chatham Strait) came from Frederick Sound and Stephens Passage. The data are given in Table 13. The previous experiments, both at Cape Bendel and Point

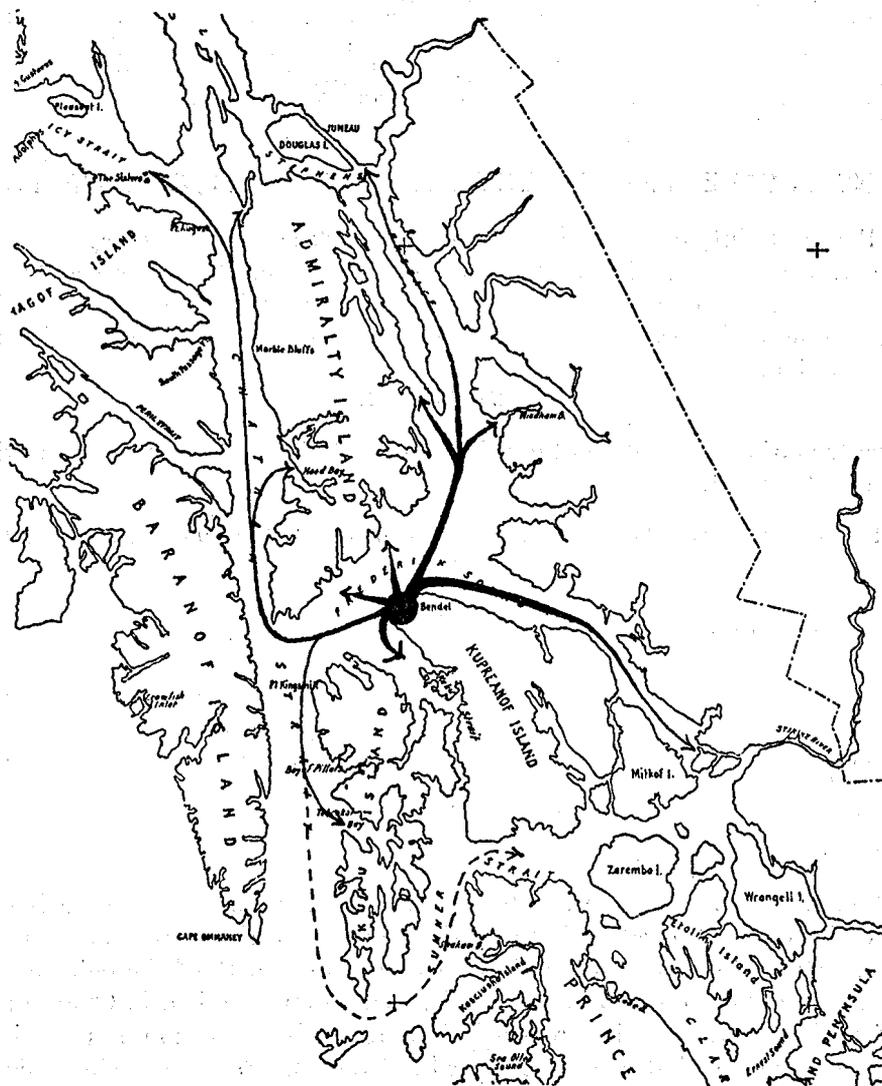


FIG. 10.—Distribution of pink salmon tagged at Cape Bendel, July 15 to 18, 1926

Kingsmill, indicated a similar local distribution of the fish entering Frederick Sound, although in the case of the experiments at Point Kingsmill there was a more important migration south into the numerous bays of the west coast of Kuiu Island.

TABLE 13.—*Chum salmon tagged at Cape Bendel, July 15 to 18, 1926—99 tagged, 21 returned (21.2 per cent)*

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Chatham Strait: No details.....	1	18	Stephens Passage:		
Frederick Sound:			Port Houghton.....	1	14
Point Camden.....	1	26	Dry Bay.....	1	17
Point Napean.....	1	10	Windham Bay.....	1	5
Deepwater Point.....	3	3-7	Sunset Island.....	1	11
Pybus Bay.....	5	2-17	Seymour Canal.....	2	5-7
Point Highland.....	2	6-8	Shelter Cove.....	1	6
Farragut Bay.....	1	4			

RETURNS FROM EXPERIMENTS AT PARKER POINT, CHATHAM STRAIT

At Parker Point, between July 20 and 22, 999 salmon were tagged; 47 were red salmon, 3 cohos, 927 pinks, and 22 chums. None of the cohos was recaptured and but one of the chums. That one was taken at Marble Bluffs one day after the tagging. None of the previous experiments can be compared directly with the one under discussion.

RED SALMON

Seventeen of the red salmon tagged at Parker Point were returned, and the data are given in Table 14.

TABLE 14.—*Red salmon tagged at Parker Point, Chatham Strait, July 20 to 22, 1926—47 tagged, 17 returned (36.2 per cent)*

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Icy Strait: No details.....	1	9	Frederick Sound: Pybus Bay.....	1	8
Chatham Strait:			Stephens Passage:		
No details.....	2	40-46	Windham Bay.....	1	6
Funter Bay.....	2	3-4	Taku Inlet.....	4	4-16
Hawk Inlet.....	1	(¹)	Outer Point, Douglas Island.....	1	4
Marble Bluffs.....	1	1			
Rocky Bay.....	1	2			
Basket Bay.....	2	3			

¹ Reported taken before date of tagging.

Although the data are too few to form a basis for more than tentative conclusions, they indicate a migration both north and south of the point where the tagging was done. Red salmon were taken in Chatham Strait north of the point of tagging, as far as Funter Bay and also in Icy Strait. Others were taken in Chatham Strait, south of Parker Point, and in Frederick Sound. It is a question as to which route was taken by the fish that were recaptured in Stephens Passage. They might have gone through Frederick Sound or around the northern end of Admiralty Island. It seems rather probable that the latter course was taken, inasmuch as other experiments, to be described later, show a distinct migration of red salmon from Icy Strait around the northern end of Admiralty Island, to Taku Inlet.

PINK SALMON

The data on the pink salmon tagged at Parker Point are given in Table 15 and Figure 11. The distribution is unusually wide for pink salmon, showing a fairly well-marked migration north in Chatham Strait and into Icy Strait, and a more important

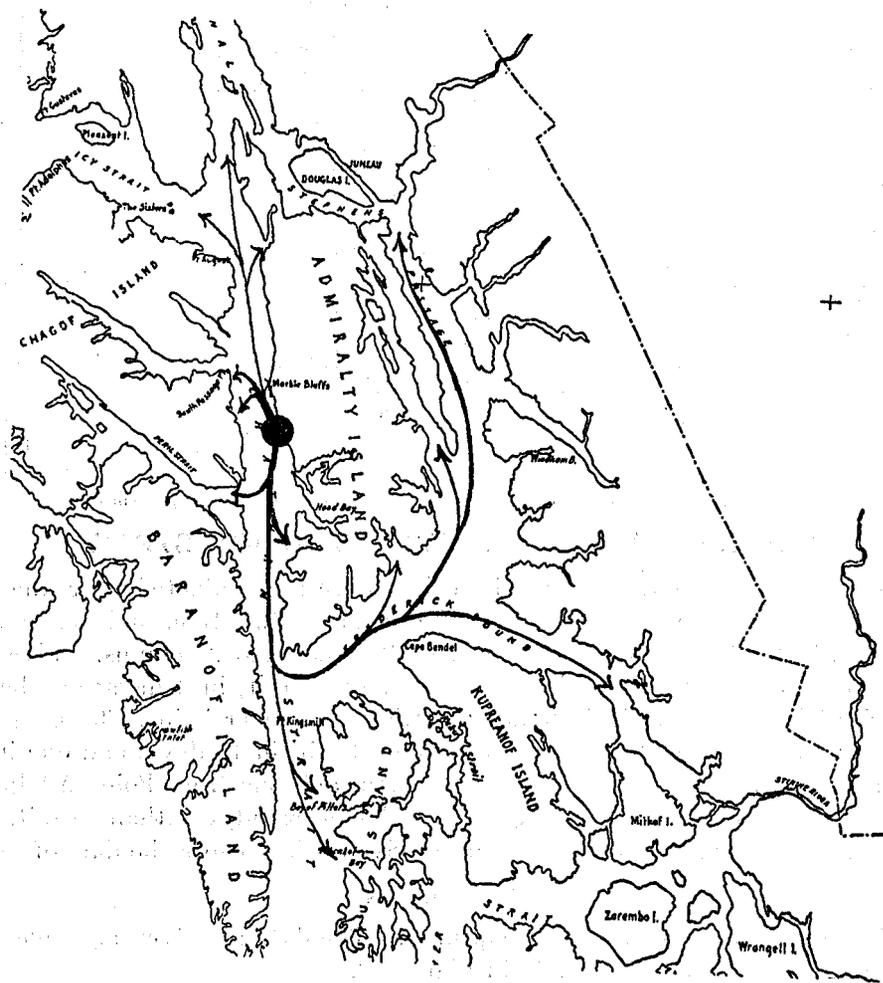


FIG. 11.—Distribution of pink salmon tagged at Parker Point, July 20 to 22, 1926

migration into Frederick Sound and Stephens Passage. Others were taken in Peril Strait, Slocum Arm (on the outer coast of Chichagof Island), Clarence Strait, and one was recaptured in the Nass River, British Columbia.

TABLE 15.—*Pink salmon tagged at Parker Point, Chatham Strait, July 20 to 22, 1926—927 tagged, 321 returned (34.6 per cent)*

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Icy Strait:			Slocum Arm.....	7	8-16
No details.....	8	8-15	Frederick Sound:		
Point Adolphus.....	1	9	Herring Bay.....	9	3-20
Spasskaia Bay.....	2	9-10	Napean Point.....	2	2-5
Rocky Islet.....	3	3-7	Murder Cove.....	1	7
Chatham Strait (north of Parker Point):			Deepwater Point.....	6	4-10
False Point Retreat.....	4	7-20	Carroll Island.....	4	2-6
Funter Bay.....	5	3-13	Pybus Bay, Point, and Reef.....	13	5-16
Hawk Inlet ¹	10	3-16	Keku Island ¹	1	(?)
Kelp Bay.....	4	4-11	Kadake Bay.....	1	6
Freshwater Bay.....	1	39	Hamilton Bay.....	1	22
Fishery Point.....	4	1-14	Point McCartney.....	1	20
South Passage Point.....	4	3-11	Cape Bendel.....	4	4-16
Tenakee.....	1	33	Cape Fanshaw.....	5	3-19
Basket Bay.....	30	2-20	Highland Point.....	1	6
Marble Bluffs ¹	46	1-17	Cape Strait.....	2	0-4
Parker Point.....	6	2-19	Twelve Mile Creek.....	1	20
No details.....	1	10	Stephens Passage:		
Chatham Strait (south of Parker Point):			Port Houghton.....	8	2-17
Favorite Bay ²	2	47	Hobart Point.....	1	13
Morris Reef.....	8	3-15	Gambier Bay.....	1	29
Rocky Bay.....	15	2-14	Windham Bay.....	7	6-17
Hood Bay.....	5	14-20	Sunset Island ¹	3	18-19
Chalk Bay.....	1	44	Seymour Canal.....	7	7-14
Wilson Cove.....	4	2-5	Limestone Inlet.....	8	10-17
Between Hood Bay and Point Caution.....	35	1-11	Shelter Cove.....	3	2-3
Washington Bay.....	2	6-7	Outer Point.....	5	2-6
Tebenkof Bay.....	3	14-25	Clarence Strait: Driest Point.....	1	13
Peril Strait:			British Columbia: Nass River.....	1	59
No details.....	1	17	Doubtful.....	10	1-8
Rodman Bay.....	1	0			

¹ One reported taken before the date of tagging.² One with date of capture unknown.

RETURNS FROM EXPERIMENTS IN ICY STRAIT

The experiments in the Icy Strait region were all conducted near the Inian Islands at the extreme eastern end of the strait. Two thousand salmon were tagged, of which 127 were reds, 47 cohos, 1,804 pinks, and 21 chums. Five of the cohos were retaken—one near Pleasant Island, Icy Strait, in 3 days; another near Lemesurier Island, Icy Strait, in 6 days; another at Danger Point, Chatham Strait, in 26 days; another at Fishery Point, Chatham Strait, in 15 days; and one in Peril Strait, in 12 days. Two of the chums were returned, one from Point Adolphus in 7 days and the other from False Bay on Chichagof Island, Chatham Strait. This last record was faulty, the date of capture as given being before the date of tagging.

RED SALMON

Thirty-four red salmon were recaptured. The data are given in Table 16 and the distribution is shown graphically in Figure 12.

TABLE 16.—*Red salmon tagged in Icy Strait district, July 24 to 29, 1926—127 tagged, 34 returned (26.8 per cent)*

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Icy Strait:			Slocum Arm.....	3	4-7
No details.....	1	4	Chatham Strait:		
Cape Spencer.....	1	1	No details.....	4	3-11
Port Althorp.....	1	(?)	Hawk Inlet.....	1	7
Inian Cove.....	1	6	Frederick Sound, Cape Bendel.....	1	12
Eagle Point.....	2	3-9	Stephens Passage:		
Gull Cove.....	5	2-6	Shoal Point.....	1	6
Dundas Bay.....	1	7	Taku Inlet.....	3	1(?)—8
Point Adolphus.....	3	3-7	No information.....	1	(?)
Pleasant Island.....	3	2-8			
Excursion Inlet.....	2	4-8			
Porpoise Island.....	1	7			

¹ Reported taken before tagged.

A few of these fish went westward and were taken in Cross Sound and Slocum Arm. The main route of migration, however, was to the eastward through Icy Strait and thence, apparently, around the northern end of Admiralty Island to Stephens Passage and Taku Inlet. Only a small component goes south through Chatham Strait to Frederick Sound. The experiments at Douglas Island (to be described later) corroborate the results of these in Icy Strait and show that an important migration of reds passes Douglas Island on the way to Taku Inlet. These

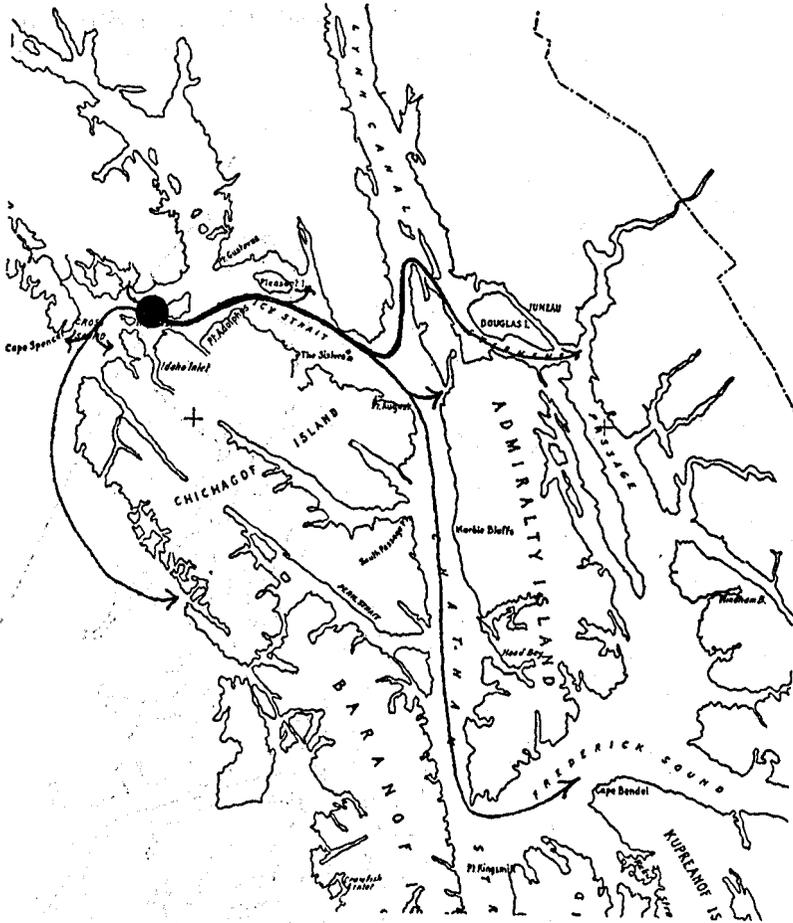


FIG. 12.—Distribution of red salmon tagged in Icy Strait, July 24 to 29, 1926

results are strikingly different from those of the previous experiments. The tagging of 1924 and 1925 was done early in the summer, mainly between June 23 and July 1, and, therefore, tested the migration of the early part of the run only. A larger proportion of these early fish went south in Chatham Strait to Frederick Sound; none were taken in Stephens Passage, but there was a well-marked migration into Lynn Canal, where the Chilkat and Chilkoot Rivers are. These are known to be the sources of important runs of red salmon, and from these experiments it is evident that the reds bound for these two rivers enter Icy Strait early in the season.

Later in the season the Chilkat and Chilkoot fish disappear from the red-salmon runs that enter Icy Strait, and they are succeeded by an important component derived from the Taku River. All through the season some of the Icy Strait fish pass south through Chatham Strait and are presumably distributed to local spawning grounds tributary to Chatham Strait and Frederick Sound.

PINK SALMON

Of 1,804 pink salmon tagged, 616 were returned. The main route of migration was east through Icy Strait, thence south through Chatham Strait to Frederick Sound. Very few were recaptured outside of these waters; 11 were taken at Shoal

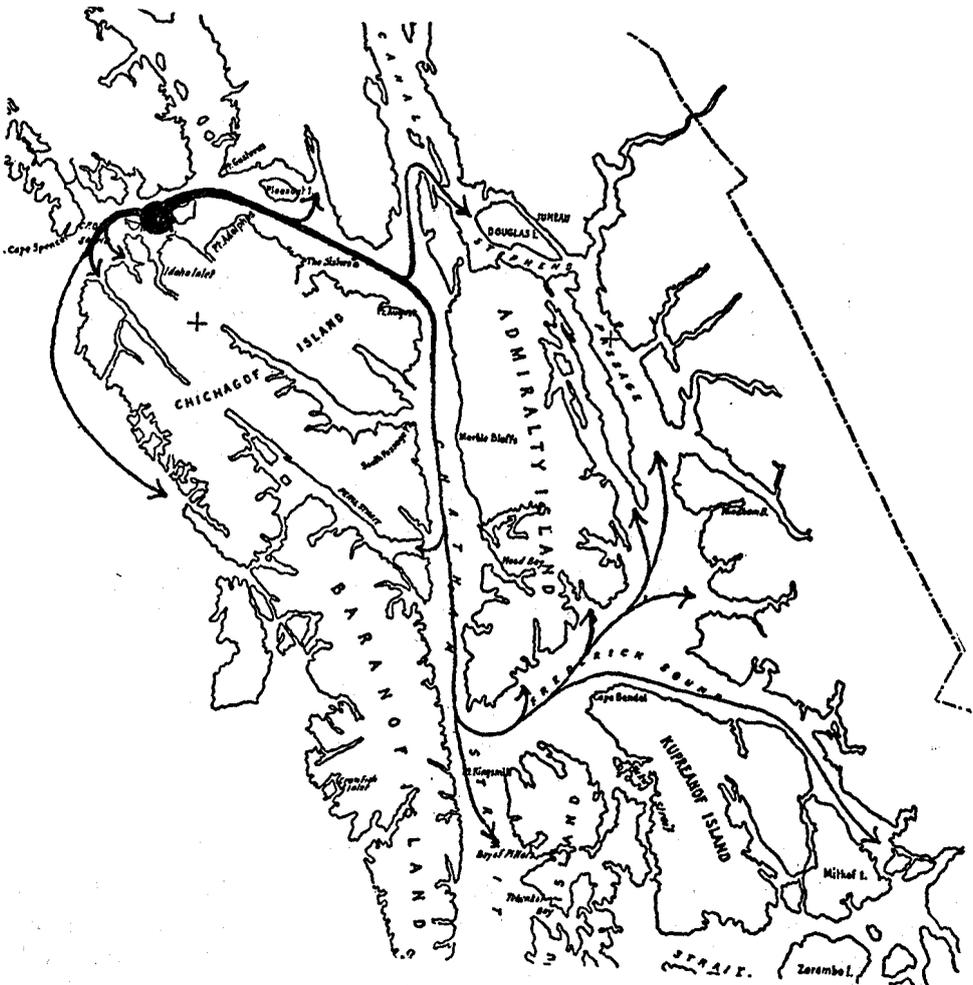


FIG. 13.—Distribution of pink salmon tagged in Icy Strait, July 24 to 29, 1926

Point, on Douglas Island, and others in Chatham Strait, north of Icy Strait. These indicate a slight migration into Stephens Passage around the northern end of Admiralty Island. The results agree perfectly with those secured from the previous

experiments, and it may be concluded that there is no great difference in the distribution of pink salmon that enter Icy Strait at various times during the season. The data are given in Table 17 and Figure 13.

TABLE 17.—Pink salmon tagged in Icy Strait, July 24 to 29, 1926—1,804 tagged, 616 returned (34.0 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Icy Strait and Cross Sound:			Chatham Strait—Continued.		
No details.....	16	4-13	South Passage Point.....	4	5-11
Cape Spencer.....	1	2	Marble Bluffs.....	29	3-16
Inian Island ¹	19	0-9	Basket Bay.....	23	6-18
Inian Cove.....	8	0-4	Parker Point ²	1	(?)
Lisianski Island and Inlet.....	1	6	Sitkoh Bay.....	1	1
Stag Bay ³	5	2-14	Morris Reef.....	5	7-12
George Island.....	7	3-5	Rocky Bay.....	6	6-14
Port Althorp ⁴	28	0-11	Hood Bay.....	7	6-17
Gull Cove.....	27	2-12	Between Hood Bay and Point Caution.....	6	6-17
Eagle Point.....	11	3-11	Village Point, Chalk Bay.....	1	7
Dundas Bay.....	1	4	Wilson Cove.....	3	6-14
Dundas Point ¹	7	2-14	Perl Strait: No details.....	2	2-12
Mud Bay.....	1	4	Chatham Strait, south of Frederick Sound:		
Division Point.....	1	6	South of Kingsmill Point.....	1	12
Lemesurier Island.....	14	2-14	Washington Bay.....	1	19
Point Gustavus.....	16	3-9	Tebenkof Bay.....	3	15-21
Point Adolphus.....	57	2-12	Frederick Sound:		
Pleasant Island.....	29	4-11	Keku Strait.....	1	20
Excursion Inlet.....	19	4-37	Point McCartney ⁵	1	0
Pinta Cove.....	6	1-7	Cape Bendel.....	2	4-12
Spasskaja Bay.....	9	3-11	Herring Bay.....	8	9-14
Porpoise Island.....	18	1-9	Eliza Harbor.....	1	11
Point Sophia.....	1	6	Carroll Island.....	1	8
Rocky Point.....	7	4-12	Murder Cove ⁴	1	8
Rocky Islet.....	13	2-9	Pybus Bay.....	10	6-18
Point Augusta.....	3	6-7	Stephens Passage:		
Slocum Arm.....	4	7-11	Gambler Bay.....	2	7-10
Chatham Strait, north of Frederick Sound:			Windham Bay.....	1	15
No details.....	39	1-12	Seymour Canal.....	6	5-9
False Point Retreat.....	1	12	Limestone Inlet.....	3	5-11
Funter Bay.....	12	2-8	Groundhog Bay.....	1	3
Young Island ⁴	1	(?)	Shoal Point.....	11	6-10
Hawk Inlet.....	52	2-13	Stikine River.....	1	19
Point Marsden.....	5	2-5	Ernest Sound: Meyers Chuck.....	1	17
False Bay.....	11	2-11	Clarence Strait: Cape Chacon.....	1	18
Tenekee.....	1	20	British Columbia: Nass River.....	1	88
Fishery Point.....	13	5-12	Doubtful.....	6	5-7

¹ One without record of date captured.

² One reported taken before date of tagging, and one without record of date captured.

³ Nineteen reported taken before date of tagging, and one without record of date captured.

⁴ One reported taken before date of tagging.

⁵ Doubtless an error in the time record.

RETURNS FROM EXPERIMENTS AT DOUGLAS ISLAND, STEPHENS PASSAGE

RED SALMON

The data bearing on the red salmon tagged near Douglas Island are given in Table 18 and are shown graphically in Figure 14. Five hundred and sixteen were tagged and 215 recaptured. A striking feature is the great predominance of the returns from Taku Inlet. Over 85 per cent of all the returns came from this locality and from the Taku River, and others came from points between where the fish were tagged and the entrance to Taku Inlet. Most of the other returns came from various localities in Stephens Passage.

TABLE 18.—Red salmon tagged near Douglas Island, Stephens Passage, July 31 to August 3, 1926—
516 tagged, 216 returned (41.6 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Icy Strait, Spasskaia Bay.....	1	(1)	Stephens Passage—Continued.		
Chatham Strait, Fishery Point.....	1	6	Auke Bay.....	1	20
Frederick Sound, Cape Bendel.....	1	4	Seymour Canal.....	1	4
Stephens Passage:			Limestone Inlet.....	11	3-6
Shoal Point.....	11	1-5	Point Hobart.....	1	7
Douglas Island.....	1	6	British Columbia, Shelsey River (Taku system).....	3	34-51
Taku Inlet ²	173	0-6	Doubtful.....	3	
Taku River, Taku Point.....	7	0-4			

¹ Reported taken before date of tagging.

² Seven reported taken before date tagged.

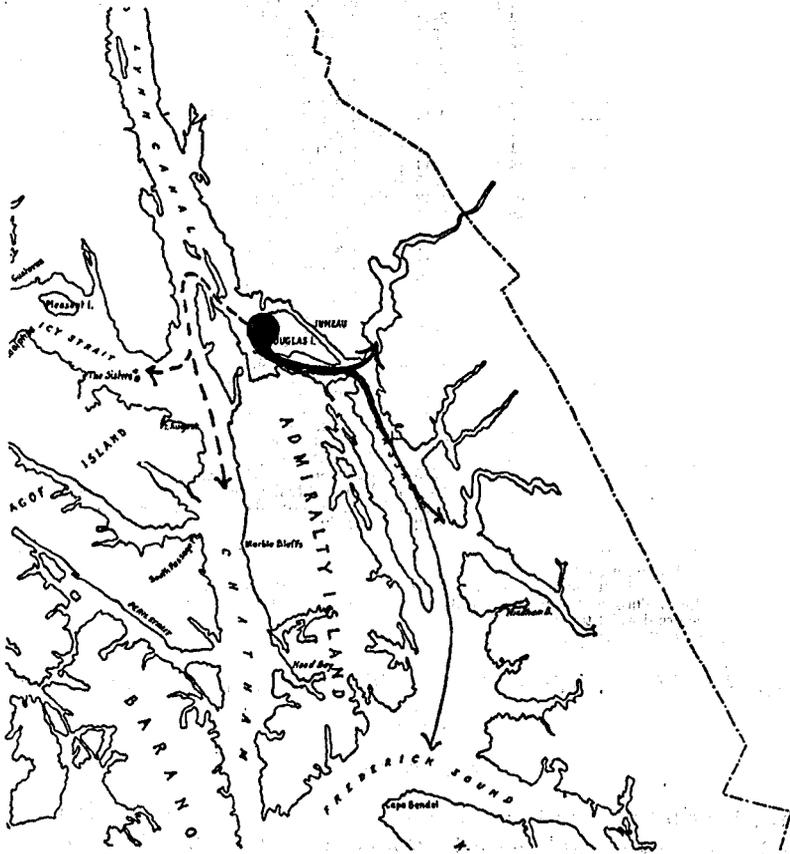


FIG. 14.—Distribution of red salmon tagged at Douglas Island, July 31 to August 3, 1926

CHUMS

Ninety-nine chums were tagged between July 31 and August 3. Only four were recaptured, one each from the following localities: Limestone Inlet, 5 days; Salmon Creek, Juneau, 29 days; Glass Peninsula, 9 days; Spasskaia Bay, Icy Strait, date of capture doubtful.

COHOS

Ninety were tagged and 15 recaptured. Ten of these were taken in Taku Inlet in from 2 to 5 days after being tagged. One was reported taken at each of the following localities: Middle Point, Douglas Island, in 44 days; Hood Bay, 4 days; Marble Bluffs, 3 days; Limestone Inlet, 3 days; and Seymour Canal, 5 days.

PINK SALMON

Of 794 pink salmon tagged at Douglas Island, 181 were retaken. The data are given in Table 19 and Figure 15. The distribution was primarily to waters tributary

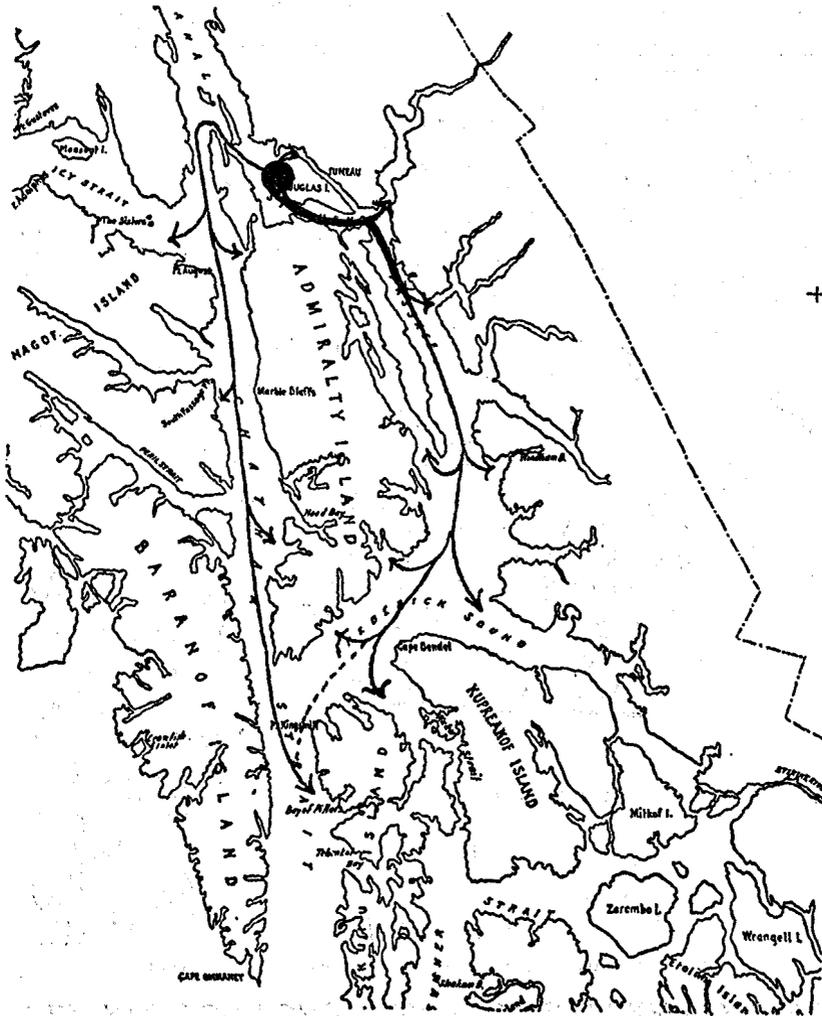


FIG. 15.—Distribution of pink salmon tagged at Douglas Island, July 31 to August 3, 1926

to Stephens Passage, but there is evidently a well-marked movement into Chatham Strait, probably around the northern end of Admiralty Island. Those taken in Frederick Sound may have reached there through Stephens Passage or through Chatham Strait (probably through Stephens Passage, inasmuch as that appears to be the main migration route of the pink salmon that pass Douglas Island).

TABLE 19.—Pink salmon tagged near Douglas Island, Stephens Passage, July 31 to August 3, 1926—794 tagged, 181 returned (22.8 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
Icy Straits, Spasskaia Bay.....	1	1	Frederick Sound—Continued.		
Chatham Strait:			Cape Bendel.....	4	5-9
No details.....	1	5	Cape Fanshaw.....	3	6-7
Hawk Inlet.....	1	3	Stephens Passage:		
Point Marsden.....	1	4	Douglas Island.....	34	1-44
Marble Bluffs.....	2	8-10	Salmon Creek, Juneau.....	9	7-30
Basket Bay.....	2	4	Taku Inlet.....	58	1-44
Hood Bay.....	5	3-9	Glass Peninsula.....	2	8-10
Tebenkof Bay.....	1	14	Seymour Canal.....	5	3-9
Frederick Sound:			Limestone Inlet.....	36	2-6
Keku Strait.....	1	60	Snettisham Inlet.....	1	32
Port Camden.....	1	(¹)	Windham Bay.....	4	6-9
Herring Bay.....	2	7	British Columbia: Shelsey River (Taku system).....	4	22-38
Pybus Bay.....	3	5-9			

¹ Reported taken before date of tagging.

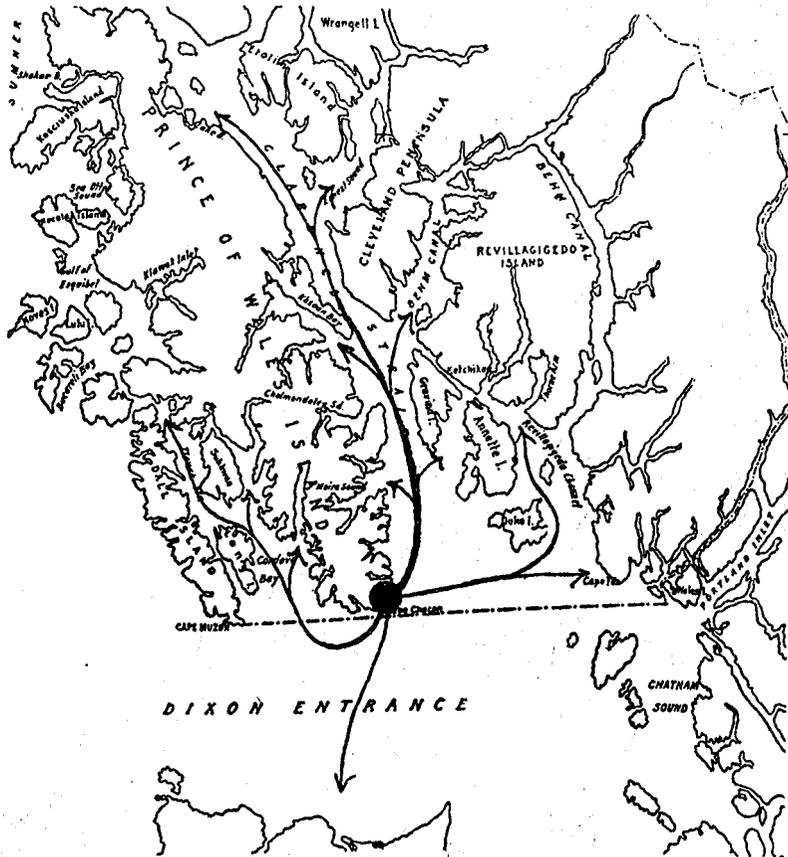


FIG. 16.—Distribution of pink salmon tagged at Stone Rock Bay, August 9, 1926

RETURNS FROM EXPERIMENTS AT STONE ROCK BAY, CLARENCE STRAIT

Five hundred salmon were tagged here on August 9. Four red salmon were tagged and one was recaptured in 5 days in Ingraham Bay, Clarence Strait, just a few miles north of the point where the tagging was done. Twelve cohos and 5 chums were tagged, but none of either species was returned; the remainder were pink salmon, and 132 were recaptured. The data are given in Table 20 and Figure 16.

TABLE 20.—Returns from pink salmon tagged at Stone Rock Bay, August 9, 1926—479 tagged, 132 returned (27.6 per cent)

Locality of recapture	Number	Time, in days	Locality of recapture	Number	Time, in days
West coast:			Clarence Strait—Continued.		
Hunter Bay.....	1	12	Point Caamafo.....	3	8
Kassa Inlet.....	2	12-13	Grindall Point.....	3	5-7
Coco Harbor.....	1	7	Windfall Harbor.....	2	4-6
Datzkoo Harbor, Dall Island.....	1	11	Kasaan.....	5	4-5
Grace Harbor.....	1	11	Stream at Kasaan.....	1	34
Kaigani Strait.....	5	3-11	Twelve Mile Arm.....	1	4
Cape Muzon.....	4	5-11	Daisy Island.....	1	9
Nunez Point.....	10	4-13	Skowl Point.....	3	3
Clarence Strait:			Tolstof Bay.....	2	5
Cape Obacon.....	18	1-7	Whale Passage.....	1	7
Stone Rock Bay.....	2	3-8	Ernest Sound, Union Point.....	1	10
Island Point, Prince of Wales Island.....	4	1-3	Behm Canal, Betton Island.....	3	4
Ingraham Point.....	1	3	Revillagigedo Channel:		
Polk Island.....	3	6	Point Higgins.....	1	(1)
Moira Sound.....	9	4-9	Gravina Point.....	2	4-10
Halibut Creek.....	8	4-9	Hassler Harbor.....	1	37
Cholmondeley Sound.....	1	7	Point Alava.....	1	1
Skin Island.....	3	4	Hotspur Island.....	2	4
Dall Head.....	8	3-8	Foggy Bay.....	1	5
Driest Point.....	5	5-9	Tree Point.....	1	6
Nelson Cove.....	4	3-4	Dixon Entrance, Cape Fox Island.....	1	8
Bostwick Inlet.....	3	4-5	British Columbia, Massett Inlet, Graham Island.....	1	8
Grant Cove.....	3	4			

¹ Reported recaptured before date of tagging.

In 1925, 2,341 pink salmon were tagged at or near this same place between August 8 and 13. The results in the two years were virtually identical. The distribution was mainly along the west coast of Prince of Wales Island, in Clarence Strait, Behm Canal, Ernest Sound, and Revillagigedo Channel.

RETURNS FROM EXPERIMENTS IN KAIGANI STRAIT

Tagging was done here on August 10 and 11, and nearly 1,600 fish were handled.

RED SALMON

Out of 55 tagged 6 were returned, as follows: Two from Cape Ulitka, Noyes Island, 11 days after tagging; one each from Dall Head, 5 days; Moira Sound, 6 days; Kassa Inlet, 9 days; and Kaigani Strait, 2 days.

COHOS

Forty-six were tagged and 6 returned. One came from each of the following localities: Mountain Point, Revillagigedo Island, 18 days after tagging; Alder Grove, 18 days; Kassa Inlet, 20 days; Nichols Bay, 9 days; Unuk River, 45 days; and Annette Point, 37 days.

PINK SALMON

Of 1,479 tagged, 498 were recaptured. The returns came predominantly from the waters of the west coast of Prince of Wales Island, the southern part of Clarence Strait, and Revillagigedo. They are in entire agreement with the results of the tagging done at Cape Muzon and Kaigani Point in 1925. The data are given in Table 21 and Figure 17.

TABLE 21.—Pink salmon tagged in Kaigani Strait, experiments 26 and 27, August 10 and 11, 1926—
1,479 tagged, 498 returned (33.7 per cent)

Localities of recapture	Number	Time, in days	Localities of recapture	Number	Time, in day
West coast, Prince of Wales Island:			Clarence Strait—Continued.		
Kaigani Strait.....	125	1-11	Polk Island.....	3	4-8
Howkan Narrows.....	9	4-5	Moirs Sound.....	6	0-37
Cape Muzon.....	58	2-11	Halibut Creek.....	8	5-8
Long Island.....	2	3	Skin Island.....	1	7
Nunez Point.....	6	7-12	Dog Island.....	1	4
Webster Point.....	13	3-12	Hofspur Island.....	1	3
Shipwreck Point.....	11	3-11	Dall Head.....	7	4-7
Cordiva Bay.....	1	3	Driest Point.....	1	7
Klakas Inlet.....	13	3-10	Nelson Cove.....	1	3
Kassa Inlet.....	5	9-12	Grant Cove.....	2	5-6
Hunter Bay.....	5	1-11	North end Gravina Island.....	2	7
Grace Harbor.....	8	8-13	Grindall Point and Island ¹	4	4-9
Coco Harbor.....	6	6-7	Skowl Point and Arm.....	5	7-8
Sukkwani Island.....	10	4-12	Windfall Harbor.....	2	7-8
Hessa Inlet.....	2	6	Streets Island.....	8	5-13
Nutkwa Inlet ¹	39	2-11	Caamafo Point.....	1	7
Tlevak Strait.....	3	5-6	Point Niblack.....	1	9
Datzkoo Harbor.....	14	5-11	Ship Island.....	4	6-7
Alder Grove.....	4	3-11	Meysers Island.....	2	6-7
Lime Point.....	5	5-10	Tolstoi Point.....	1	7
Hydaberg.....	4	4-8	Frederick Sound, Francis Anchorage.....	2	12-14
Arboleda Point.....	3	6	Behm Canal, Betton Island.....	1	2
Baker Island.....	8	2-11	Revillagigedo Channel:		
San Juan Bautiste.....	1	5	Higgins Point.....	1	8
Noyes Island.....	13	5-6	Bostwick Inlet.....	1	7
Cape Ulitka.....	1	7	Traitors Cove ²	1	(?)
San Christoval Channel.....	1	9	Seal Cove or Bay.....	8	5-11
Klawak Inlet.....	1	8	Gravina Point.....	1	9
Bocas de Finas.....	2	8-9	Cedar Point (Smugglers Cove).....	3	5-7
Hole in the Wall.....	1	10	Crab Bay.....	2	7-8
Clarence Strait:			Thorne Arm.....	1	42
Cape Chacon ³	37	2-10	British Columbia: Skeena River.....	1	9
Stone Rock Bay.....	3	4-7			
Island Point, Prince of Wales Island.....	1	8			

¹ Two with date of capture not reported and one reported retaken before date of tagging.

² One reported taken before date of tagging.

³ Two reported taken before date of tagging.

CHUMS

Eighteen were tagged and three recaptured. One was taken in each of the following localities: Cape Muzon, 8 days; Soda Bay, 9 days; and Nutkwa Inlet, reported taken before the date of tagging.

CONCLUSIONS

The percentages of tagged fish recaptured in each experiment are about the same as in the experiments of 1924 and 1925. The following table (Table 22) gives the percentages of recaptures for each experiment in which there was a sufficient number recaptured to make such percentages fairly reliable. The discussion of the percentage of returns given in the report on the tagging of 1924 and 1925 does not need to be modified in the light of the additional experiments of 1926 and need not be repeated here.

TABLE 22.—Percentages of tagged fish recaptured

Locality where tagged	Red	Coho	Pink	Chum	Locality where tagged	Red	Coho	Pink	Chum
Cape Fox.....	40.8	17.2	19.0	22.9	Icy Strait.....	26.8		34.0	
Nelsons Cove.....	16.1	20.6	23.6	21.4	Douglas Island.....	41.6		22.8	
Point Colpoys.....	19.0		26.2		Stone Rock Bay.....			27.6	
Cape Bendel.....			34.5	21.2	Kaigani Strait.....			33.7	
Parker Point.....	36.2		34.6						

The general routes of migration, as indicated by the experiments of 1926, were the same as outlined in the previous report. Fish entering Icy Strait are distributed mainly to waters tributary to Icy Strait, Chatham Strait, Lynn Canal (1925), and Stephens Passage. Those entering through the southern entrance to Chatham Strait go mainly to Chatham Strait, Frederick Sound, and Stephens Passage. Those entering Sumner Strait go mainly to Sumner Strait, Clarence Strait, Ernest Sound, Behm Canal, and Revillagigedo Channel; and those entering at Dixons Entrance are distributed to the west coast of Prince of Wales Island, the lower part of



FIG. 17.—Distribution of pink salmon tagged in Kalgani Strait, August 10 and 11, 1926

Clarence Strait, Behm Canal, Ernest Sound, and to the streams of northern British Columbia. In general, it appears that the fish enter the channels of southeastern Alaska through the entrance that provides the most direct route to the streams in which they will eventually spawn, and that they follow this most direct route without wide wandering.

Certain differences are shown in the distribution of red salmon tagged early in the season, as compared with salmon tagged later in the season at the same place. No such difference is clearly marked in the case of the other species. In the case

of red salmon tagged near Cape Fox, the early fish appear to be going primarily to Boca de Quadra and to the Nass River. Later in the season it appears likely that a larger percentage of the fish found in the region of Cape Fox have originated in the streams of British Columbia. In the region of Icy Strait the experiments have shown conclusively that the early run of reds contains an important element derived from the large rivers at the head of Lynn Canal. The later runs contain few if any Lynn Canal fish but do contain a large number of fish bound for Taku Inlet, which were not represented at all during the earlier part of the season.

As in the previous experiments, the distribution of the pink salmon and chums is shown to be predominantly to places located within a comparatively short distance from the point of tagging. This is probably due to the habit of these two species of spawning in all of the numerous small creeks of this region. The red salmon range more widely, but the cohos appear to be the most widely ranging of any of the species tagged.